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## ABSTRACT

The purpose, procedures, analyses, and results are documented for eight information sources used by the Austin (Texas) Independent School District's Title I Evaluation in 1981-82. These information sources include: (1) Peabody Picture Vocabulary Test; (2) Iowa Test of Basic Skills; (3) Title I Service Report; (4) Kindergarten Observations; (5) Parent Advisory Council Records; (6) Parent Survey; (7) Principal Interview; and (8) Metropolitan Readiness Tests. Each source is contained in an appendix devoted singularly to that instrument. Each source answers one or more evaluation questions, decision questions, and/or information needs from the Evaluation Design. For each source, five types of information are included: (1) an instrument description, (2) purpose for administering the instrument, (3) procedures used to collect data, (4) analyses and results, and (5) figures presenting the data. Also appended are a prekindergarten longitudinal file and a comparative study across the Title I, Migrant, and Title VII Pre-Kindergarten Programs. (Author/PN)

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ESEA Title 1

1981-82 FINAL TECHNICAL REPORT /

June 30, 1982

Secretary:  
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Approved:

  
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Publication No.: 81.33

ACKNOWLEDGEMENT AND DISCLAIMER

The project presented or reported herein was performed pursuant to a grant from the Department of Education. However, the opinions expressed herein do not necessarily reflect the position or policy of the Department, and no official endorsement by the Department should be inferred.

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FINAL REPORT

Project Title: ESEA Title I

Contact Persons: Karen Carsrud, Freda Holley

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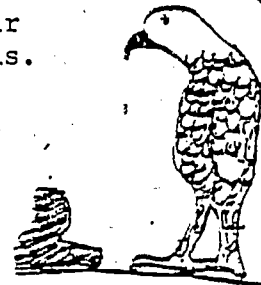
Major Positive Findings:

1. Title I prekindergarten students made larger achievement gains this year than last year. In addition, they made gains that were larger than the national average, and also larger than the gains of Migrant and Title VII students with comparable pretest scores.
2. Students in the regular Title I program met or exceeded the program objectives at every grade level except grade 5. At grades K, 2, and 3 gains were especially impressive.
3. Low-achieving kindergarten and first-grade students in schoolwide projects (with a pupil/teacher ratio of 15 to 1) made significantly larger gains than students in the regular Title I program.

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Major Findings Requiring Action:

1. Kindergarten students in Title I schools spent an average of 4 hours per day in noninstructional activities. This represents 61% of the total school day. By comparison, Title I prekindergarten students last year spent only 56% of the time in noninstructional activities.
2. While Title I prekindergarten students scored higher than comparable students when entering kindergarten, they no longer showed an advantage when they entered first grade or when they reached second grade.
3. Observations conducted in kindergarten classes revealed almost no differences in the instruction of former prekindergarten students and their kindergarten peers who had not participated in a pre-kindergarten program. This finding may partially account for the failure of prekindergarten students to maintain their achievement advantage when they reach higher grade levels.



Other Findings of Interest:

- The Title I prekindergarten classes this year had 16 students per class and did not have a teacher aide. In previous years, each class had 20 students and a teacher aide. The higher gains of the 1981-82 Title I prekindergarten students lend support to local and national findings in previous years which indicate that the use of aides does not contribute to achievement gains.

Evaluation Summary:

ESEA Title I is the largest of the federally-funded compensatory education programs. Its purpose is to provide supplemental instruction in the basic skills to low-achieving students in schools with high concentrations of children from low-income families.

This year's Title I program provided instruction to children in 28 District elementary schools, three nonpublic schools, and four institutions for neglected and/or delinquent children. In addition, Title I funded all or part of nine prekindergarten classes, and a parental involvement component.

The results below are summarized by program components. Greater detail can be found in the 1981-82 ESEA Title I Technical Report, publication number 81.33.

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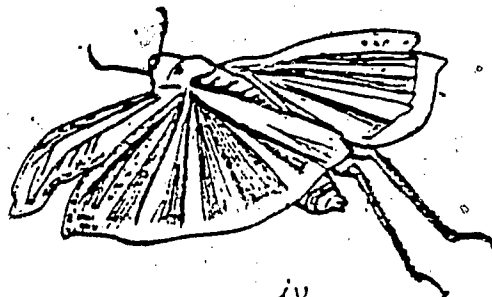
## THE REGULAR TITLE I READING IMPROVEMENT PROGRAM

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### HOW WERE STUDENTS SERVED BY THE REGULAR TITLE I READING PROGRAM?

The regular Title I program served students in grades K-6 on 26 campuses. Students scoring at or below the 30th percentile in reading (or the 30th percentile in language for kindergarten students) were eligible for supplemental reading instruction by Title I teachers. Instruction was provided in the regular classroom, in the reading center or lab, or in both locations.

Figure 1 compares the number and percentage of students served in each location in 1979-80, 1980-81, and 1981-82. An examination of the figure indicates that a larger percentage of Title I students were served in the classroom during 1981-82 than in previous years.



		1979-80	1980-81	1981-82
Lab	#	1778	2239	1169
	%	45%	58%	34%
Class	#	1853	986	2033
	%	47%	26%	59%
Both	#	331	601	257
	%	8%	16%	7%

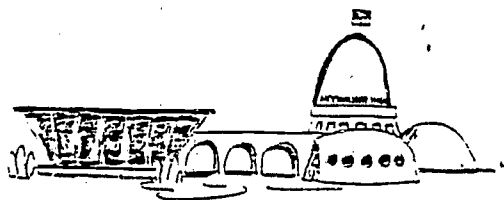
Figure 1. NUMBER AND PERCENT OF STUDENTS SERVED IN THE LAB, CLASS, OR BOTH LAB AND CLASS, ACROSS THREE YEARS.

### DID THE REGULAR TITLE I PROGRAM SHOW POSITIVE ACHIEVEMENT RESULTS?

Yes, to some extent. The Title I program met or exceeded its objectives at every grade level, except grade 5. Because these objectives are based on the 1980-81 gains of Title I students below the 30th percentile, it appears that Title I students this year gained more than comparable students last year. The gains were especially greater than expected at grades K, 2, and 3.

Low-achieving students in Title I schools were also compared with low-achieving students who live in a traditional Title I attendance area, but who are no longer receiving Title I instruction as a result of desegregation of their school. Figure 2 shows the gains for students in regular Title I schools, students in schoolwide projects, and for comparable students from former Title I attendance areas. These comparisons revealed that low-achieving students in former Title I areas gained more at grades K and 1 than students in regular Title I schools. However, there were no other significant differences between these two groups of students. Although this might seem to indicate that there was no advantage to students in Title I schools, it should be noted that students in former Title I areas may be higher in socioeconomic status. Thus, they might normally be expected to show greater gains than students in Title I schools.

Overall, the gains for students in the regular Title I program this year are encouraging, when compared with previous years. If the regular Title I program was indeed more effective in 1981-82, it is possible that this improvement is a result of a larger percentage of students being served in the regular classroom, rather than on a "pullout" basis in the reading lab or center.



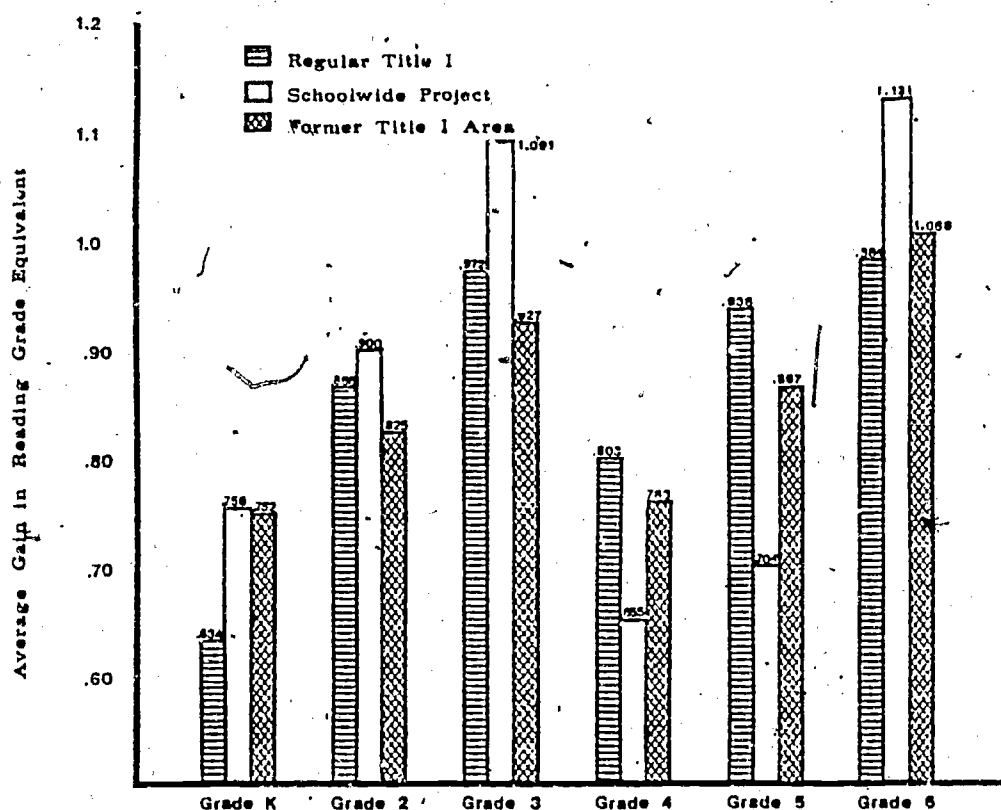


Figure 2. AVERAGE GAIN IN READING GRADE EQUIVALENT FOR LOW-ACHIEVING STUDENTS IN THREE TYPES OF SCHOOLS. (Grade 1 not shown, because gains are measured differently at that grade level.)

## TITLE I SCHOOLWIDE PROJECTS

### HOW DO SCHOOLWIDE PROJECTS DIFFER FROM THE REGULAR TITLE I PROGRAM?

When the concentration of low-income students at a school exceeds 75%, the Education Admendment of 1978 provided for use of Title I funds and supplemental local funds to be used in reducing the overall pupil/teacher ratio within the school. In a regular Title I school, teachers funded by Title I provide services only to children below the District's Title I eligibility criterion. These services must be supplemental to the instruction provided by the classroom teacher. However, in a Title I schoolwide project, teachers paid from Title I funds function as regular classroom teachers with students of mixed achievement levels and a lower pupil/teacher ratio. This lower pupil/teacher ratio is in effect for the entire day, not just during reading instruction.

Two AISD schools, Allison and Becker, have had Title I schoolwide projects for the last two years (1980-81 and 1981-82). Title I funds and supplemental local funds were used to reduce the pupil/teacher ratio to approximately 15:1 in these schools.



## WERE THE SCHOOLWIDE PROJECTS SUCCESSFUL IN RAISING ACHIEVEMENT OF LOW-ACHIEVING STUDENTS?

Yes, at the lower grade levels. Figure 2 compares achievement gains of students in regular Title I schools, students in schoolwide projects, and students from traditional Title I attendance areas now in schools without Title I services. *At grades K and 1, there was a significant advantage for schoolwide project students over students in regular Title I schools*, even though the regular Title I program met or exceeded its objectives at these grade levels. However, at grade 4, schoolwide project students gained significantly less than students in regular Title I schools. At other grade levels, there were no statistically significant differences between students in regular Title I schools and schoolwide projects, although there was a slight trend for schoolwide project students to show greater gains than students in regular Title I schools at grades 2, 3, and 6.

## HOW DO THESE RESULTS COMPARE TO THOSE FROM THE FIRST YEAR OF SCHOOLWIDE PROJECTS?

Last year, students in the schoolwide projects gained more than students in regular Title I schools at every grade level. On the average, schoolwide project students that year gained two months more than low-achieving students in regular Title I schools.

In 1981-82, however, the gains of regular Title I students were higher than in previous years. Thus, the advantages of schoolwide projects over a successful regular Title I program are clearly apparent only at the earlier grade levels.

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## PREKINDERGARTEN PROGRAM

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### WHAT IS THE TITLE I PREKINDERGARTEN PROGRAM?

The Title I prekindergarten program consists of nine full-day pre-kindergarten classes for four-year-olds. During this fourth year of the program, Title I prekindergarten classes were located at Brown (two classes), Maplewood, Norman, Ortega, Rosewood, and Sims. In addition, two classes, one at Allan and one at Ridgetop, were funded 50% by Title I and 50% by Title I Migrant.

### HOW DID THE GAINS OF THE TITLE I PREKINDERGARTEN PROGRAM COMPARE WITH ACHIEVEMENT GAINS OF PREVIOUS YEARS?

The Title I prekindergarten students continued to gain more on the Peabody Picture Vocabulary Test (PPVT) than the average four-year-old, and more than comparable Title I Migrant and Title VII students. The gains for this year were also larger than last year's gains. Figure 3 shows gains on the PPVT for the various prekindergarten programs across the years. (Gains shown are for students who answered correctly at least eight items in a row, to reach a "basal" score.)

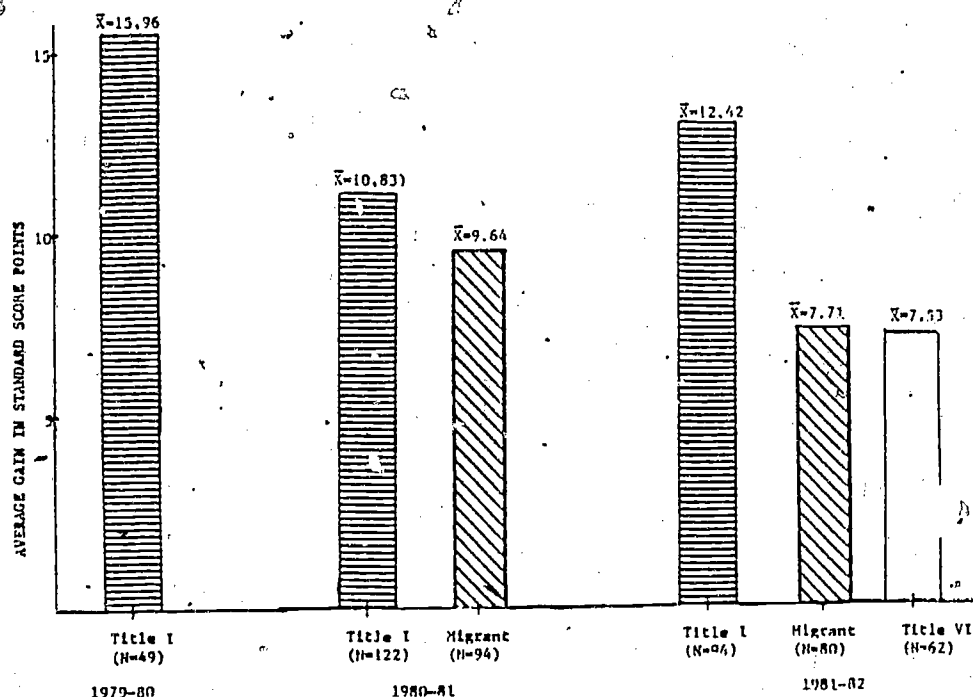


Figure 3. AVERAGE GAIN IN STANDARD SCORES FOR STUDENTS IN THREE TYPES OF PREKINDERGARTEN PROGRAMS.

WERE THERE ANY DIFFERENCES IN GAINS AMONG THE THREE PROGRAMS BETWEEN THOSE STUDENTS WHOSE SCORES WERE RELATIVELY LOW, MODERATE, OR HIGH ON THE PRETEST?

Yes, the gains for students with relatively high pretest scores did not differ among the three programs. However, among students with lower pretest scores, Title I students gained more than Title I Migrant and Title VII students.

WHAT DID TITLE I PREKINDERGARTEN TEACHERS SAY ABOUT THE PROGRAM?

In an individual interview with each prekindergarten teacher, the teachers were asked to describe their classroom activities. Title I prekindergarten teachers indicated that they primarily used English in teaching their class, and that the AISD curriculum was their main curriculum. The Title I teachers also described using checklists to monitor individual student progress, and use of small instructional groups to supplement large-group instruction.

In previous years, each Title I prekindergarten class had an aide, although the class size was larger. For 1981-82, the class size was reduced to 16, but there was not an aide for any of the classes. Most teachers saw many drawbacks in not having an aide. Several teachers felt that they could not supervise all the children as well; the teacher was not covered in an emergency; there was no one to help with materials; field trips were more difficult, etc. Nevertheless, achievement gains this year were greater than for last year, suggesting that the lack of an aide might be merely inconvenient, rather than detrimental to instruction.

## DO FORMER PREKINDERGARTEN STUDENTS CONTINUE TO MAKE GOOD GAINS IN KINDERGARTEN AND BEYOND?

Results this year and in the two previous years have shown that the former prekindergarten students entered kindergarten scoring above their classmates. *However, these students are no longer outscoring their classmates by the beginning of first grade, or when they reach second grade.*

## WHAT FACTORS MIGHT EXPLAIN THE FAILURE OF PREKINDERGARTEN STUDENTS TO MAINTAIN THEIR ACHIEVEMENT ADVANTAGE?

Classroom observations of kindergarten students were conducted to determine if there were any differences in the instruction of former prekindergarten students and their kindergarten peers who did not participate in an AISD prekindergarten program. The observations revealed that 76% of the time actually spent in formal instruction, was spent in whole-class instruction, or in instruction received outside the class (such as art, music, or P.E.).



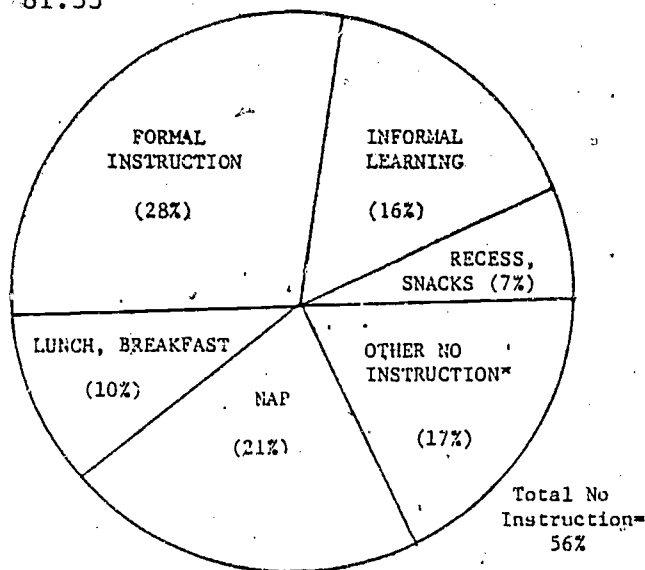
Thus, it is not surprising that the only statistically significant difference between the two groups of students was quite small: former prekindergarten students spent an average of three minutes less per day in the lowest level of instructional group. (Conversely, there was a marginally significant trend for former prekindergarten students to spend an average of five minutes more per day in the highest level instructional group.)

Although there are some disadvantages of individual or ability-grouped instruction, it does appear that the current kindergarten program for former prekindergarten students does not build on their achievement advantage. It seems important to consider ways of maintaining their relative gains when these students reach higher grade levels.

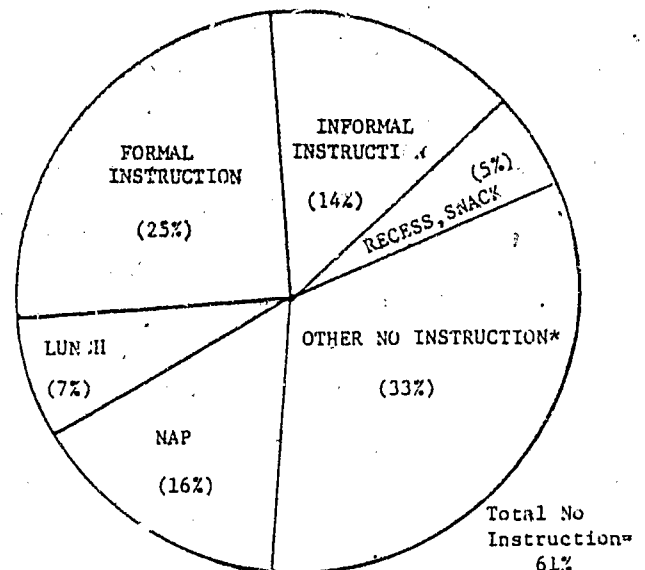
## DID THE CLASSROOM OBSERVATIONS REVEAL ANY OTHER IMPORTANT FINDINGS?

The results indicated that kindergarten students in Title I schools spent approximately 95 minutes (25%) of their time in formal instructional activities, 55 minutes (14%) in informal instructional activities, and 240 minutes (61%) in noninstructional activities. *The time spent in noninstruction was greater for 1981-82 kindergartners than for 1980-81 prekindergartners, as can be seen in Figure 4.*





Title I Prekindergarten Students in 1980-81.



Kindergarten Students in 1981-82.

\* "Other No Instruction" includes transition time from one activity to the next, housecleaning activities, going to the bathroom, passing out homework papers, lining up for lunch or music, washing hands, etc.

Figure 4. COMPARISON OF TIME USAGE FOR 1981-82 KINDERGARTEN STUDENTS AND 1980-81 PREKINDERGARTEN STUDENTS.

It is unclear whether or not the large percentage of time spent by kindergarten students in noninstructional activities is partially responsible for the failure of former prekindergarten students to maintain their relative achievement advantage. However, the District may wish to consider a closer look at time use in kindergarten classes to determine the reasons for and possible effects of the large amount of noninstructional time at this grade level.

## READING RAINBOW KITS

### WHAT ARE RAINBOW KITS?

Rainbow Kits are a Title I instructional support program that consists of reading-related activities for parents to do with their children. Each family receives a plastic file box to keep the activities in at home, and the kits are designed to be sent home with each Title I child on a weekly basis.

Title I students in eight schools received reading Rainbow Kits in 1981-82. Comparable students in other Title I schools served as a control group. This is the second year that reading Rainbow Kits have been used, and last year they were piloted with approximately one-half of the students in six schools.

## DID THE RAINBOW KITS IMPROVE STUDENT ACHIEVEMENT?

No, at least not yet. Figure 5 shows the gains of Rainbow Kit participants and control students at the grade levels where significant differences were found. At two grades, the Rainbow Kit students did significantly better than the control group of students; while at two other grade levels, the reverse was true.

Overall, there is no evidence that students who received Rainbow Kits made greater achievement gains than students who did not receive the kits. However, parents last year reported liking the kits very much, and it may be that the effects of participating in the program are long-term rather than short-term.

Unfortunately, it was not possible to compare the gains of students who had received two reading Rainbow Kits with gains of students receiving no kits, or one kit. Only two schools received the kits for two years in a row, and the sample of students who had actually received two kits was very small. However, if parent involvement in such activities continues to be of interest to parents and the District, longitudinal followup of students receiving the kits should be considered.

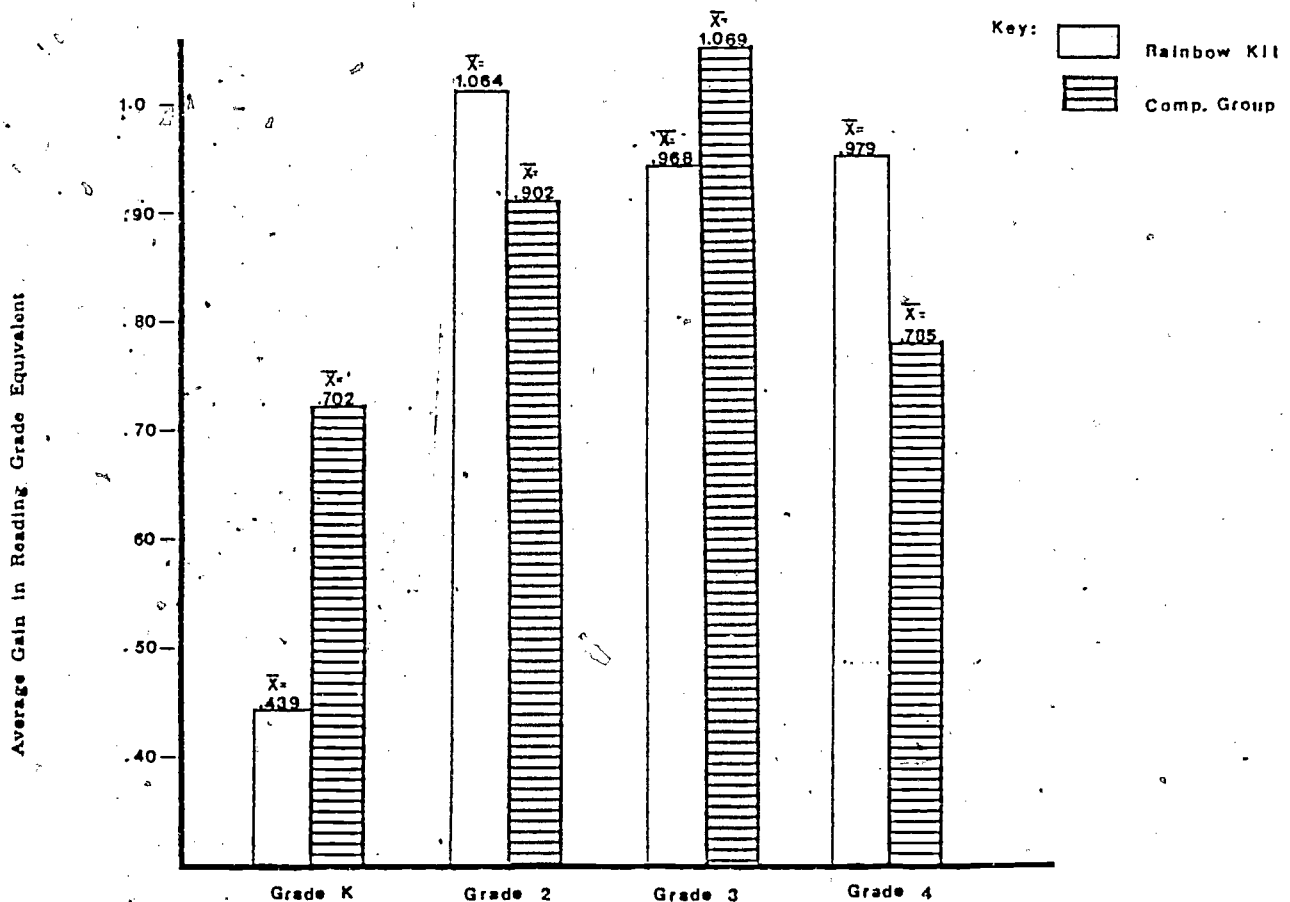


Figure 5. AVERAGE GAIN IN READING GRADE EQUIVALENT FOR GRADE LEVELS WITH A SIGNIFICANT DIFFERENCE BETWEEN THE GROUPS (RAINBOW KIT PARTICIPANTS VS. COMPARISON GROUP.)

## PARENTAL INVOLVEMENT COMPONENT

### HOW DO PARENTS WANT TO PARTICIPATE IN THE TITLE I PROGRAM?

A survey was mailed to a random sample of over 400 parents of regular and schoolwide project Title I and Migrant students to assess their preferences for ways to be involved in the Title I/Migrant program. A total of 110 surveys were returned (27%). The majority of those parents who responded to the survey were mothers of the students (83%), and the majority had previously attended a Parent Advisory Council (PAC) meeting (86%).

In general, parents most frequently indicated a preference to work in their child's school or attend workshop/training sessions as ways of being involved in the program. Of those who desired training in how to help their child, the most frequently mentioned needs for training were in the areas of reading, math, disciplinary skills, and ways to inquire about their child's progress.

### WERE THE OBJECTIVES OF THE PARENTAL INVOLVEMENT COMPONENT MET?

Figure 6 shows that two of three objectives of the Parental Involvement Component were met. Other findings showed that:

- Attendance at PAC meetings declined from 1158 last year to 704 this year.
- The number of PAC meetings held at AISD schools increased from 71 last year to 89 this year. However, the number of nonpublic school PAC meetings declined from four to one.

Met	Not Met	OBJECTIVE
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A minimum of one parent training session for Districtwide PAC members will be held during the 1981-82 school year. It may be in conjunction with the Districtwide PAC meetings.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A minimum of two staff development sessions will be held by the Title I and Title I Migrant instructional coordinators for the community representatives and/or the campus PAC contact persons.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	A minimum of one parent training session will be held on each Title I campus during the 1981-82 school year. It may be held in conjunction with the local PAC meeting.



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## THE SUMMER AT-HOME READING PROGRAM (1980)

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Title I offered a home-based summer reading program to about 300 Title I students during the summer of 1980. Two earlier evaluations failed to find any significant benefits in terms of achievement for students who participated in the program, when compared with a control group of students. However, in order to detect any long-term achievement benefits that might emerge from their participation two years ago, gains of participants were compared with controls again at the end of 1982. No differences between the gains of the two groups were found.

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### PRINCIPAL INTERVIEW

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#### WHAT CONCERNS DID PRINCIPALS MENTION ABOUT THE TITLE I PROGRAM?

A random sample of eight Title I principals was interviewed in the spring of 1982, and some common themes or concerns emerged from their comments. All principals thought the Title I program was beneficial to their low-achieving students, and most emphasized the importance of communication between the Title I and regular classroom teachers.

Some principals wondered about the need for separate instructional coordinators for Title I, and whether or not the functions these coordinators currently performed could be performed by regular instructional coordinators for their school. However, each of the principals had a great deal of respect for his/her particular Title I coordinator. In addition, all mentioned that they felt they were very prepared when visits by the Title I monitors from the Texas Education Agency occurred.

Two other concerns were mentioned frequently by the principals. When Title I teachers are absent, there are currently no funds available for hiring a substitute teacher. Also, there are some scheduling and noise problems associated with serving Title I students in the classroom rather than on a pullout basis.

Title: Testing Students for Title I Eligibility—ESEA Title I

Contact Person: Karen Carsrud

No. Pages: 43

Summary:

This packet was developed to provide principals and Title I teachers with a single source of information for use in determining the Title I eligibility of students in their school. The document contains four sections and five appendices described below.

Section I: Legal/Fiscal Requirement

This section describes four rules which must be followed in identifying Title I students. These are rules which TEA consultants monitor during their visit each year.

Section II: Generalized Procedure for Selecting Students

This section suggests a step-by-step procedure for selecting Title I students which should satisfy TEA monitors.

Section III: Criteria for Title I Eligibility

The general criteria for Title I eligibility are listed in this section.

Section IV: Selecting Students Without Test Scores

Students who enter Title I schools without test scores come either from another AISD campus or from another district. This section describes how to obtain test scores for these students. A flowchart is provided to simplify the process.

Section V: What to do About Students With Invalid Test Scores

Sometimes a student will have test scores that are clearly much higher or lower than the student's classroom performance would indicate. This section provides a procedure for retesting those students.

Appendices describing testing procedures and norms for each grade level are included for use by campus personnel who conduct the testing.



81.33

Brochure

ABSTRACT

Title: Evaluation Findings in Brief: Title I and Title I Migrant 1980-81

Contact Persons: Karen Carsrud and Catherine Christner

No. Pages: 2

Summary:

The information in this brochure summarizes data found in the 1980-81 ESEA Title I Regular Final Technical Report (ORE Publication Number 80.71) and the 1980-81 ESEA Title I Migrant Final Technical Report (ORE Publication Number 80.40).

## Evaluation Design

## ABSTRACT

Title: EVALUATION DESIGN: 1981-82 Title I

Contact Person: Karen Carsrud

No. Pages: 28

Summary:

The evaluation design is a one-year plan of evaluation work for this project. It provides a brief project and evaluation summary, the major decision and evaluation questions to be addressed, other information needs, dissemination plans, and information sources to be used.

The major foci of the Title I evaluation component for 1981-82 will be the effectiveness of:

- prekindergarten and kindergarten instruction,
- the Title I Reading Improvement Program (TRIP),
- the Parental Involvement Component,
- the schoolwide projects at Allison and Becker, and
- Rainbow Kits.

Whenever possible, longitudinal examination or tracking of students in the program will be conducted.

## Technical Report

## ABSTRACT

Title: FINAL TECHNICAL REPORT: ESEA Title I 1981-82

Contact Person: Karen Carsrud

No. Pages: 315

Summary:

This report documents the purpose, procedures, analyses, and results for each information source used by Title I Evaluation in 1981-82. It contains eight appendices, each of which is devoted to a single instrument or information source. Each information source, in turn, is used in answering one or more evaluation questions, decision questions, and/or information needs from the 1981-82 Evaluation Design.

Each appendix contains:

- An instrument description
- Purpose for administering the instrument
- Procedures used to collect the data
- Analyses and results
- Figures presenting the data.

The technical report for 1981-82 contains the following appendices:

- Appendix A: Peabody Picture Vocabulary Test
- Appendix B: Iowa Test of Basic Skills
- Appendix C: Title I Service Report
- Appendix D: Observations
- Appendix E: PAC Records
- Appendix F: Parent Survey
- Appendix G: Principal Interview
- Appendix H: Metropolitan Readiness Tests

Title: Needs Assessment for the Preparation of the 1982-83 Chapter I Application

Contact Person: Karen Carsrud

No. Pages: 199

Summary:

This document provided information necessary to the planning of the E.C.I.A. Chapter I Program for 1982-83. 'It is divided into four sections.'

Section I: Ranking of Schools by Percentage of Low-Income Students

This section of the Needs Assessment describes in detail how the AISD attendance area were ranked by their percentage of low-income children for the 1982-83 Chapter I application.

Section II: Alternate Ranking Procedure

The Title I regulation allow the ranking of schools based on economic deprivation to be altered to reflect differences in educational need. This section provides the altered ranking and explains how it was obtained.

Section III: Procedures for Determining Need Areas and Participant Numbers

The tables in this section are used to determine the subject matter and grade levels to be served, and also to estimate the number of eligible participants at each school for various possible selection criteria.

Section IV: Tables for the Selection of Title I Schools

This section contains four sets of contingency tables showing eligible students for various numbers of schools served and selection criteria chosen. One set of tables uses the regular ranking of schools (by percent low income), and the second set of tables uses the alternate ranking of schools. The remaining two sets of contingency tables show the number of eligible students (using the alternate ranking of schools) if the Title I were to serve only grades K-2 or K-3.

Title: Information from ORE about Classroom Observations

Contact Person: Karen Carsrud

No. Pages: 4

Summary:

The Office of Research and Evaluation did over 50 day-long observations in kindergarten school classrooms in 1981-82. A brochure was prepared to inform school personnel about the nature of these observations. The same brochure with minor alterations was used this year. The brochure answered the following frequently asked questions.

1. Why are classroom observations necessary?
2. What training has the observer had?
3. Will teachers have an opportunity to make comments about the observations?
4. Who is the observer? (How will the teacher know who she is when she comes to the room? (Photograph of the observer was provided in the brochure.)
5. Will the teacher know when an observer will be in the classroom?
6. What have been teachers' reactions to observations in the past?
7. Is there a difference between the observations conducted by ORE and those conducted by instructional supervisors?
8. What is the nature of the ORE observations?

Miscellaneous Document

ABSTRACT

Title: A Cause for National Pause: Title I Schoolwide Projects

Contact Persons: David Doss, Freda Holley

No. Pages: 48

Summary:

Recent Title I regulations have allowed local school districts to use Title I funds to establish schoolwide projects to upgrade the educational program for the entire school, not just for targeted students. Austin used Title I and local funds to establish two schoolwide projects where pullout programs were ended and the pupil/teacher ratio was lowered to 15-to-1. Evaluation findings showed that:

- . The lower pupil/teacher ratio gave a meaningful boost to achievement in reading, language, and math.
- . The project teachers had very high morale. They felt more effective in their work.
- . The lower pupil/teacher ratio may have had more impact on the quality of instruction (less off-task time, better teacher monitoring of work, earlier corrective feedback, fewer adults with instructional responsibility for the child, fewer disruptions, etc.) than on its quantity.
- . The program is expensive.
- . Adequate classroom space can be a problem.

Implications of the findings for planning Title I programs are briefly discussed.

Comments:

This paper was presented at the 1982 annual meeting of the American Educational Research Association in New York City.

Title: Some Lessons We Have Learned from 6,500 Hours of Classroom Observation

Contact Persons: Glynn Ligon, David Doss

No. Pages: 11

Summary:

Over the past five years the Office of Research and Evaluation has conducted over 1,000 systematic, day-long observations of the instruction of individual students. This paper summarizes the findings from these observations. Information obtained from the observations includes the amount of time students spend in various basic skills instructional areas, the content of their instruction in those areas, the amount of adult contact they have, the size of the group in which they work, the amount of time they were off task, the place that instruction occurred, and other variables.

Also included in the paper is a review of the literature which discusses the recent research tying instructional time to achievement. In addition, a complete bibliography of publications documenting and interpreting the five years of in-classroom study is included.

Comments:

This paper was presented at the 1982 annual meeting of the American Educational Research Association in New York City.

ESEA Title I

Appendix A

PEABODY PICTURE VOCABULARY TEST



## Instrument Description: Peabody Picture Vocabulary Test (PPVT-R)

Brief description of the instrument: The Peabody Picture Vocabulary Test-Revised (PPVT-R) is a standardized vocabulary test of verbal ability. It is an individually administered, untimed test. The cue words given to the subjects depend on their age and responses: younger children begin with easier words. If a child misses any of the first eight pictures, easier cue words are presented in order to establish a basal level of eight correct responses. Students who do not make eight correct responses in a row during the testing are said to have not reached a "basal score." Increased error of measurement is probably associated with their scores.

To whom was the instrument administered?

To students in the Title I, Title VII, and Title I Migrant prekindergarten programs.

How many times was the instrument administered?

Twice to each student. Students were randomly assigned either Form L or Form M for the pretest, and then given the alternate form for the posttest.

When was the instrument administered?

The pretests were administered between October 19, 1981 and November 3, 1981. The posttests were administered between April 19, 1982 and May 7, 1982.

Where was the instrument administered?

Each child was tested individually by a tester in the hall, in an empty room, empty office, or other area the school made available for testing.

Who administered the instrument?

The Title I Migrant evaluator, the Title VII evaluator, a Title I evaluation assistant, or one of four ex-teachers hired specifically for PPVT testing.

What training did the administrators have?

Each tester was provided instruction in giving the PPVT and practice in its administration with several non-AISD children.

Was the instrument administered under standardized conditions?

Yes, except for variations in room location or arrangement.

Were there problems with the instrument or the administration that might affect the validity of the data?

None were identified, except as noted above for students who did not reach a basal score.

Who developed the instrument?

Lloyd M. Dunn, Ph.D., and Leota M. Dunn.

What reliability and validity data are available on the instrument?

The PPVT-R test manual provided extensive information on test development, norms, reliability, validity, etc. Reliabilities range from .61 to .83 (split-half), and from .71 to .89 (alternate forms).

Are there norm data available for interpreting the results?

Yes. Standard norms are provided.

## PEABODY PICTURE VOCABULARY TEST

## Purpose

The Peabody Picture Vocabulary Test - Revised (PPVT-R) was administered to Migrant, Title I and Title VII prekindergarten students in order to gather information relevant to the following decision and evaluation questions:

Title I

Decision Question D4: Should the Title I Early Childhood Education Program be continued as it is, discontinued, or modified? If so, how should it be modified?

Evaluation Question D4-1: Was the objective of the Early Childhood Education Program met?

Migrant

Decision Question D1: Should the pre-K Instructional Component be continued as it is, modified, or deleted?

Evaluation Question D1-1: Were the achievement objectives met?

Evaluation Question D1-2: How do the pre/posttest gains made by the Migrant pre-K students on the PPVT compare with the pre/posttest gains made by the Title I and Title VII pre-K students?

Evaluation Question D1-3: How do the pre/posttest gains made by Migrant and Title I pre-K students this year compare with gains made in 1980-81? With gains made by Title I pre-K students in 1979-80?

Information Need I17: How many Migrant students were pre- and posttested by grade level?

Title VII

Decision Question D2: What components of the program should be modified to accomplish the objectives of the program more fully?

Evaluation Question D1-4, D2-1: Has the program impacted English language skills?

Evaluation Question D1-7, D2-4: How do children in Title VII pre-K compare in terms of academic achievement with other pre-K Programs within the District?

Many other questions about the PPVT data were included in the Title VII design and are answered in the Title VII Technical Report.

### Procedure

All Title I, Migrant, and Title VII prekindergarten students were tested ~~twice~~ during the school year on the Peabody Picture Vocabulary Test-Revised (PPVT-R). The PPVT-R was administered as a pretest from October 19, 1981 to November 6, 1981, and as a posttest from April 19, 1982 to May 7, 1982.

Since the PPVT-R is an individually administered test, several individuals were hired to assist with the pre- and posttesting. They were given training in administration and scoring of the PPVT-R. Practice training sessions were conducted before both the pre- and posttesting. With the cooperation of the University Day Care Center, the testers received actual practice giving the PPVT-R to young children. The practice testing was conducted by the Migrant Evaluator, the Title I Evaluation Intern, and all but one of the testers.

The PPVT-R has two forms--L and M. Both forms were used in the testing. Half the children in each class were randomly assigned Form L and half were randomly assigned Form M for the pretesting. The opposite form was given to the child for the posttest. Therefore each child with both a pre- and posttest has a Form L score and Form M score.

A memo (Attachment A-1) was sent in September to the Title I, Migrant, and Title VII prekindergarten teachers to advise them of the PPVT-R pretesting. Early in October, the teachers were called to schedule each of the pre-kindergarten classes for testing. The prekindergarten students were tested in their own schools, and all testing was conducted in English. However, all Title VII students were also tested with a Spanish version of the older PPVT. These data are reported in a separate appendix in the Title VII Technical Report. Make-up testing was conducted the week after the regular testing, or in some cases, on the day following the scheduled testing date.

In early December, the prekindergarten teachers were sent their students' pretest results (see Attachment A-2) in the form of standard scores. Included in Attachment A-2 is a sample of a class report of these results. Title I prekindergarten teachers were also sent a summary of percentile scores.

On April 1, Title I, Migrant, and Title VII prekindergarten teachers were sent a memo (see Attachment A-3) to advise them of the posttesting dates. The teachers were assigned posttesting times. As with the pretesting, make-up testing was conducted the week after the regular testing.

The prekindergarten teachers received their classes' scores and class gains just before the last day of school. A memo (Attachment A-4) explained the results. Each teacher was given comparison data for their program. Attachment A-4 includes a sample class printout. The PPVT-R's were all handscored by ORE staff or the testers.

The administration procedures for the PPVT-R were followed very strictly. Title I and Migrant teachers were asked to indicate which students were Spanish dominant (or other-than-English dominant) before the children were tested.

### Analyses

The PPVT-R scale score was the unit of analysis. The analyses used in answering the evaluation questions are a series of regression model comparisons. Models used in comparing the three groups are shown in Attachment A-5. Children from all three programs (Migrant, Title I and Title VII) were included in the analyses for comparison purposes. Regression information from the models in Attachment A-5 can be used to test several hypotheses. Are the lines linear rather than curvilinear? If the lines are curvilinear, is the degree of curvature the same for all groups? Are differences between the groups the same at all levels of the pretest (different slopes)? Are there any differences between the groups (different intercepts)? More information about the models and hypotheses is contained in Attachment A-5. Attachment A-6 contains the file layout for the data file, which is file PPVTTOT on tape A020 at the University of Texas. Attachment A-7 contains computer printouts generated by the analyses.

### Results

How do the gains made by the prekindergarten students compare among the three programs (Title I, Title I Migrant, and Title VII)?

All students with a valid pre- and posttest score were included, regardless of whether the children reached the basal level on the PPVT. A comparison of Model 1 versus Model 5 proved significant, indicating that the data were curvilinear. Figure A-1 gives the F values of each model comparison that was made. A comparison of Model 1 versus Model 2 also proved to be statistically significant, indicating that the quadratic component was not the same for the three programs. Thus, Model 1 was considered to be the best model for showing differences between the groups.

Figure A-2 plots the results from Model 1. The horizontal axis reflects the Fall, 1981 pretest scores on the PPVT, while the vertical axis plots the Spring, 1982 posttest scores. The Title I students are represented by a solid line, while the Migrant students are shown by the line containing "X's", and the Title VII students are represented by a line containing squares.

As can be seen from Figure A-2, the gains for students with relatively high pretest scores did not differ much between the three programs. However, for the majority of students who had moderate pretest scores, Title I students showed greater gains than did Title VII students, who showed greater gains than did Migrant students. Finally, for students with extremely low scores on the pretest, Title I students showed the greatest gains, but Migrant students made greater gains than did Title VII students.

## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

GRADE = 0  
 TEST = ALL VALID  
 NUMBER OF CASES = 323

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 44570.10976

SUM OF SQUARES, MODEL 5 = 45989.4666

DF = 3, 314

F = 3.333160946950587

(p &lt; .05)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 44570.10976

SUM OF SQUARES, MODEL 2 = 45903.07876

DF = 2, 314

F = 4.695436787723986

(p &lt; .05)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 45903.07876

SUM OF SQUARES, MODEL 3 = 49629.51194

DF = 2, 316

F = 12.82631313037984

(p &lt; .05)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 44570.10976

SUM OF SQUARES, MODEL 3 = 49629.51194

DF = 4, 314

F = 3.910973593483021

(p &lt; .05)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 49629.51194

SUM OF SQUARES, MODEL 4 = 52397.38028

DF = 2, 318

F = 9.867527583024629

(p &lt; .05)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 45989.4666

SUM OF SQUARES, MODEL 6 = 49719.17978

DF = 2, 317

F = 12.85423777952667

(p &lt; .05)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 49719.17978

SUM OF SQUARES, MODEL 7 = 52837.22645

DF = 2, 319

F = 10.00274835718539

(p &lt; .05)

Figure A-1. F-TESTS FOR ALL STUDENTS IN EACH OF THREE GROUPS.

## MODEL 1 FOR ALL STUDENTS

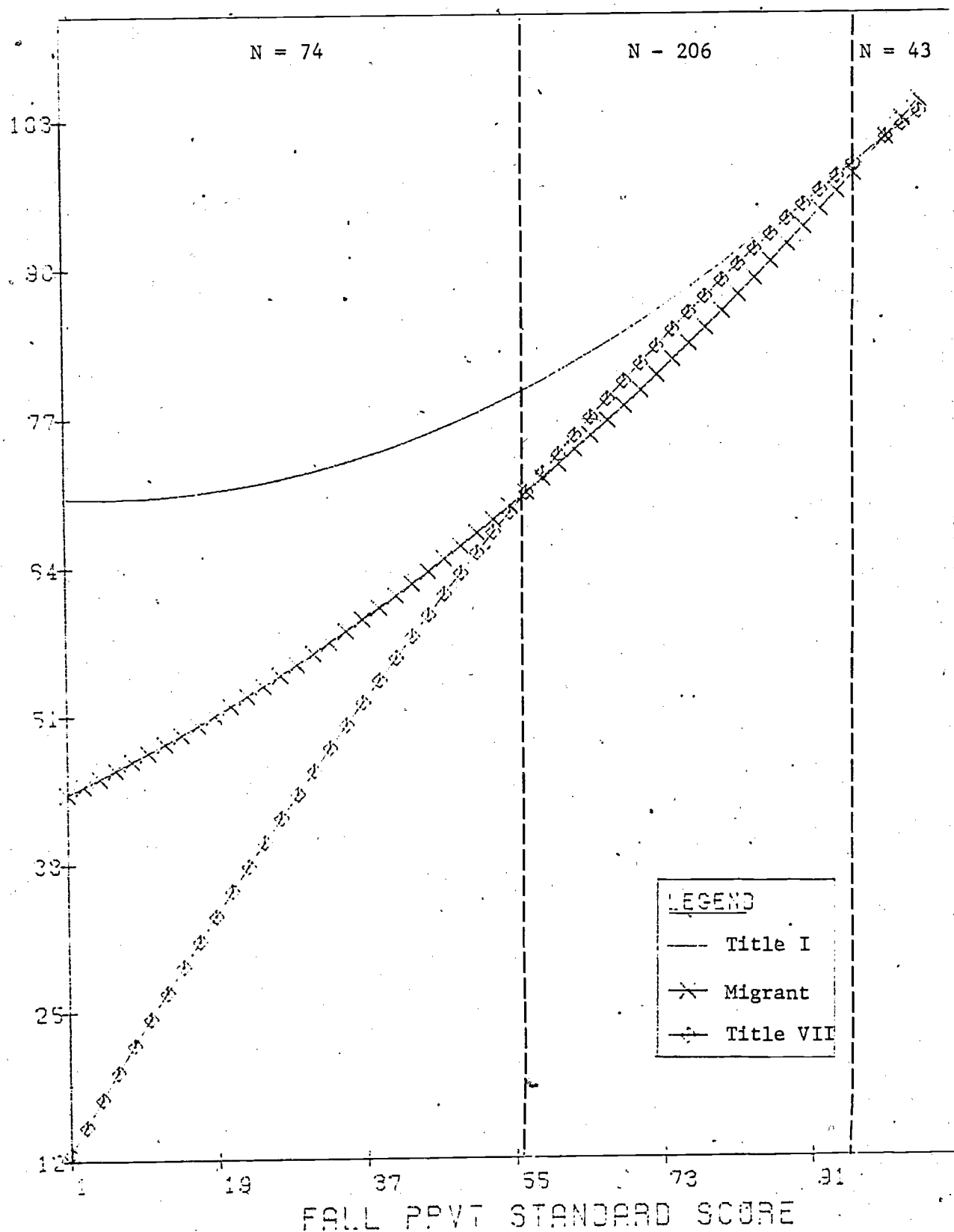


Figure A-2. PLOTS OF SPRING PPVT STANDARD SCORES, FOR ALL STUDENTS.

In summary, the Title I students showed greater gains than other students at all but the highest pretest levels. Migrant students made greater gains than Title VII students at the lowest pretest levels, while the reverse was true for those with moderate pretest scores, where Title VII students made greater gains. It should be noted that the scores for all students were compared to standardized national norms, on which no gain in standard scores would be expected normally.

How do gains of Title I and Migrant students compare with those made in previous Years?

A separate analysis on a more restricted group of students was performed in order to compare the results with those of the previous years. Only those students with a basal score on the PPVT for both pretest and posttest were included in this analysis (N = 236). In effect, this analysis reflects the pattern that is seen in the upper portion of the previously discussed Figure A-2 (includes most of the students with standard scores above 40.)

As noted in Figure A-3, a comparison of Model 1 vs. Model 5 indicated significant curvilinear effects for all programs. A comparison of Model 1 vs. Model 2 was not significant, indicating that the programs shared a common quadratic slope. Comparison of Model 2 vs. Model 3 was also not significant, indicating that the common quadratic slopes were parallel. A comparison of Model 3 vs. Model 4 proved significant, indicating that the programs had different intercepts for this restricted group of students. For this restricted group, the Title I intercept has higher, followed by the Title VII, and then by the Migrant program students.

Figure A-4 shows the results for Model 3. These results are consistent with those of previous years, in which Title I students showed the greatest gains. However, it should be noted that students in the Title I program are not necessarily comparable to Migrant or Title VII students, even when differences in pretest scores have been adjusted for. Interviews with prekindergarten teachers (Appendix J) indicated that the lack of an aide in Title I and Migrant classes presented problems for the teachers, in spite of the smaller class size.\* Figure A-5 is a bar graph comparing the average gains of prekindergarten students with basals across the previous three years. Students from different program years may be systematically different in various ways, however, and the PPVT-R may show different patterns than the PPVT in 1979-80 or 1980-81.

Evaluation Question D4-1. Was the objective of the Early Childhood Education Program met? (Title I only)

In Figure A-6 are the stratified expected gains for the Title I prekindergarten students on the PPVT. The objectives were based on performances of 1980-1981 prekindergarten students. The percentage of students making each gain is also listed. Although the assessment of these stratified objectives is very difficult, it would appear that many more students than expected made gains of 21 standard score points, and that fewer students than expected made small gains.

\*All Title VII classes did have full-time aides.



## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

GRADE = 0  
 TEST = RESTRICTED  
 NUMBER OF CASES = 236

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 21770.45351  
 SUM OF SQUARES, MODEL 5 = 22578.33381  
 DF = 3, 227 F = 2.807916212613003  
 (p < .05)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 21770.45351  
 SUM OF SQUARES, MODEL 2 = 22036.67708  
 DF = 2, 227 F = 1.387953410392688  
 (NS)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 22036.67708  
 SUM OF SQUARES, MODEL 3 = 22571.32015  
 DF = 2, 229 F = 2.777942939979772  
 (NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 21770.45351  
 SUM OF SQUARES, MODEL 3 = 22571.32015  
 DF = 4, 227 F = 2.087654343035319  
 (NS)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 22571.32015  
 SUM OF SQUARES, MODEL 4 = 23968.44325  
 DF = 2, 231 F = 7.149237039642095  
 (p < .05)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 22578.33381  
 SUM OF SQUARES, MODEL 6 = 22889.12739  
 DF = 2, 230 F = 1.582989339397061  
 (NS)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 22889.12739  
 SUM OF SQUARES, MODEL 7 = 24270.56562  
 DF = 2, 232 F = 7.001002351448756  
 (p < .05)

Figure A-3. F-TESTS FOR STUDENTS WITH BASAL SCORES.



## MODEL 3 FOR STUDENTS WITH BASALS

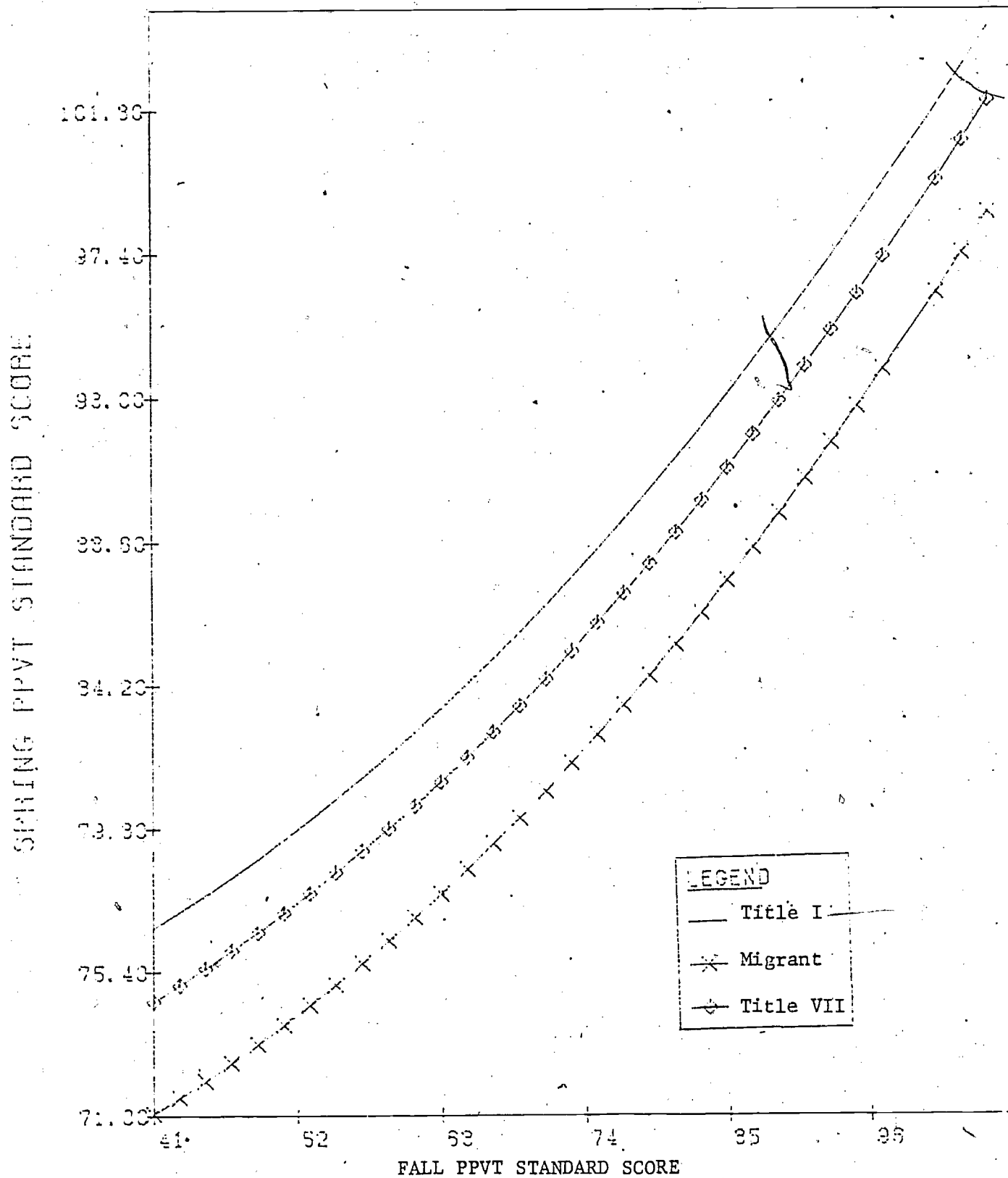


Figure A-4. PLOTS OF SPRING PPVT STANDARD SCORES, FOR STUDENTS WITH BASAL SCORES.

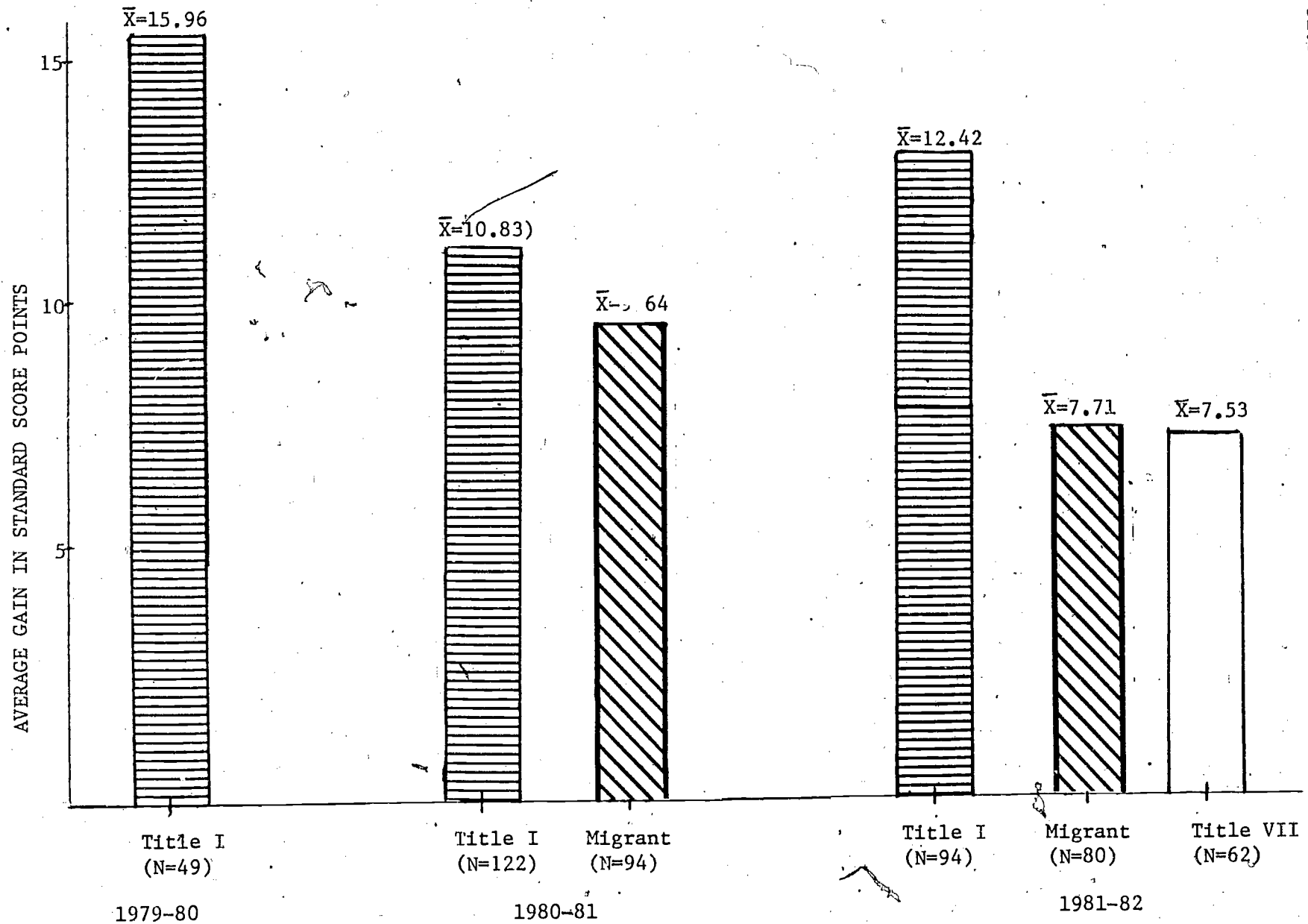


Figure A-5 . AVERAGE GAIN IN STANDARD SCORES ON PPVT FOR STUDENTS WITH BASAL SCORES.

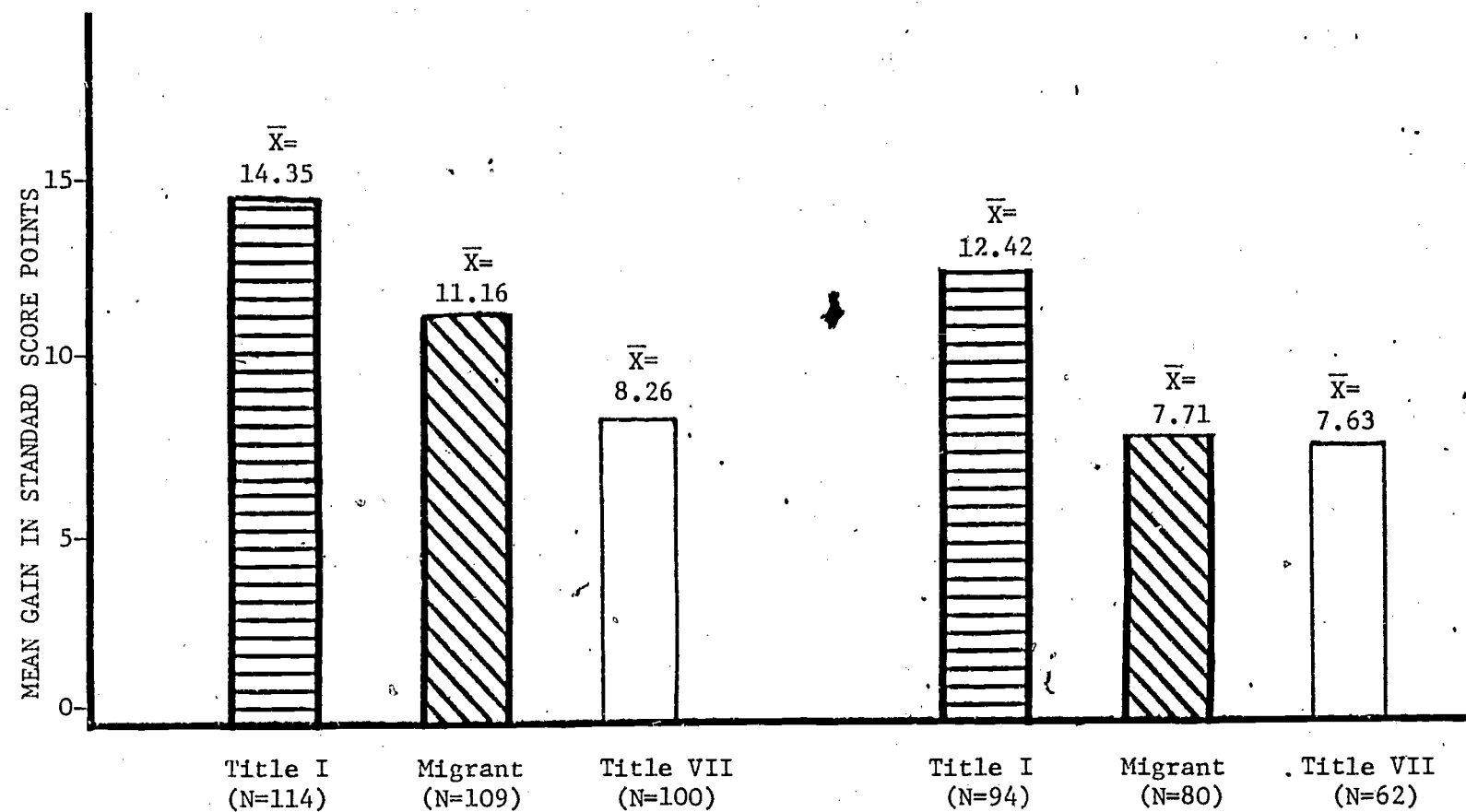
STANDARD SCORE GAIN	EXPECTED GAINS	ACTUAL GAINS
21 or more points	25%	33.0%
11-20 points	22%	24.4%
6-10 points	14%	10.4%
1-5 points	7%	13.9%
0 points or less	32%	18.3%

Figure A-6. EXPECTED AND ACTUAL GAINS  
ON THE PPVT FOR MEASUREMENT  
OF THE TITLE I OBJECTIVES.

When examining results for all 115 students in the Title I prekindergarten program, the average gain score was 14.40. For the restricted sample of Title I students who had a legitimate basal score on the PPVT, the average gain score was 12.42 (N = 94). Either of these comparisons to the 1980-1981 scores are favorable, since the average gain for 1980-1981 was 10.84 (N = 122) when only those students with basal scores were assessed.

The question of whether or not to include students without basal scores in the analyses raises complex issues. It is likely that students without basal scores have more measurement error associated with their pretest scores, and have more gaps in their language ability than did students with basal scores. However, those students without basal scores may also be the ones who are most in need of the prekindergarten program, and it seems desirable to include them whenever a reasonable conclusion can be drawn about the appropriate standard score for such children. Figure A-7 illustrates the different mean gains that occur when the analyses are conducted using all students, or only those with basal scores.

A-14



ALL STUDENTS

ONLY STUDENTS WITH BASALS

Figure A-7. AVERAGE GAIN IN STANDARD SCORES ON PPVT FOR ALL STUDENTS, AND ONLY STUDENTS WITH BASAL SCORES.

Attachment A-1

MEMO ABOUT PRETESTING

(Page 1 of 3)

AUSTIN INDEPENDENT SCHOOL DISTRICT  
Office of Research and Evaluation

81.33

September 11, 1981

Attachment A-1  
(Page 2 of 3)

TO: Title I, Migrant, and Title VII Prekindergarten Teachers

FROM: Martin Aracena, Title VII Evaluation Intern  
Catherine Christner, Migrant Evaluator  
Karen Carsrud, Title I Evaluator

SUBJECT: Prekindergarten Achievement Pretest

The Peabody Picture Vocabulary Test (PPVT) will be used again this year to measure prekindergarten achievement results. This will be a more recent version of the PPVT test, but the testing will be conducted in the same manner as it was last year. The testing dates will be in October during the period of the 19th through the 22nd and the 26th through the 29th.

Several teachers last year had very good success in getting high student attendance and positive student attitudes on the day of testing. The children were told about the testing beforehand. Notes were sent home asking parents to be sure the child got lots of sleep and came to school on the testing day. The children were very eager to participate and were not at all anxious.

Important points to remember about the testing are:

- We will be calling each of you later in September to schedule a testing date.
- We will start testing when your class begins in the morning and be finished before lunch.
- Each child will be tested individually and will be out of your class between five and fifteen minutes.

As always your cooperation is greatly appreciated. Please feel free to call with any questions.

CC:KC:MA:lg

APPROVED: *Lynda Hill*  
Director, Research and Evaluation

APPROVED: *Ruth MacAllister*  
Assistant Superintendent for Elementary Education

cc: Anita Uphaus  
Lee Laws  
Oscar Cantu  
Hermelinda Rodriguez  
Anita Coy

Timy Baranoff  
Lawrence Buford  
Principals with Migrant, Title I, and Title VII pre-K teachers  
Eva Rivera

## 81.33

**Birthdate**[illegible]

Attachment A-1  
(Page 3 of 3)



Attachment A-2  
MEMO WITH RESULTS OF  
PRETESTING  
(Page 1 of 5)

November 11, 1981

TO: Principals with Title I Pre Kindergarten Programs  
Title I Pre-Kindergarten Teachers

FROM: Karen Carsrud, Joe Burleson

SUBJECT: Peabody Picture Vocabulary Test Results

Enclosed are the results for your pre-kindergarten class on the Peabody Picture Vocabulary Test administered in October of this year. In an effort to make these scores more meaningful, we have translated each child's raw score into a percentile score, based on scores made by others of his age across the nation. Of course, like scores from any test, these are subject to fluctuation. The scores could be in error by as much as two to three percentile points in either direction.

Please call us if you have any questions concerning the testing procedures or a child's score. The posttesting will be done in April, 1982. More information will be sent to you about this next year.

Approved: *Freda M. Holley*  
Director of Office of Research and Evaluation

Approved: *Ruth MacAllister*  
Assistant Superintendent, Elementary Education

JB/lw

Enclosures

cc: Timy Baranoff  
Lawrence Buford  
Oscar Cantu  
Anita Uphaus

EARLY CHILDHOOD EDUCATION  
FALL 1981 TESTING  
PEABODY PICTURE VOCABULARY TEST

The following scores are percentile scores of all the children in your class. Percentile scores tell how each child scores relative to other children of the same age across the nation. For example, if a child scores at the 40th percentile, he/she scored better than forty percent of children in the country. If he/she scored at the 1st percentile (1), then he/she scored better than one percent of children.

SCHOOL \_\_\_\_\_

TEACHER \_\_\_\_\_

TEST DATE \_\_\_\_\_

<u>STUDENT'S NAME</u>	<u>PERCENTILE SCORE</u>	<u>STUDENT'S NAME</u>	<u>PERCENTILE SCORE</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

If there are any questions, feel free to contact Joe Burleson at the Office of Research and Evaluation at 458-1227.

## Explanation Sheet-Peabody Picture Vocabulary Pretest

## Standard Score

This is the student's score put in a standardized form for comparison purposes with the national sample of children who took the Peabody in 1979. The national sample had a mean standard score of 100 with a standard deviation of 15.

## Language (Lang)

This is the language in which the child was dominant according to the child's teacher at the time of testing.

## Possibly Invalid

There is a yes listed in this column if the tester felt the child's score was not valid for some reason - for example - the child would not speak at all.

If an asterisk is by a child's scale score it indicates this is an extrapolated score. Since scores at these levels were not provided by the test publisher, we extrapolated downward from the scores provided to give you an idea of how your students scored relative to each other.

In the class and program totals these extrapolated scores and the tests considered possibly invalid were excluded from the averages.

0

PICTURE VOCABULARY RESULTS

TITLE I AND MIGRANT

11/23/81

STANDARD SCORE WAS EXTRAPOLATED FROM PAW SCORE -- NOT INCLUDED WITH TOTALS

NAME	STANDARD SCORE	LANG	POSSIBLY INVALID
------	----------------	------	------------------

113	ENG
80	ENG
16*	SPAN
87	ENG
62	ENG
71	ENG
94	ENG
79	ENG
62	ENG

59	ENG
87	ENG
0	SPAN
69	ENG
17*	SPAN
78	ENG
56	ENG

YES

CLASS TOTALS	997
TOTAL STUDENTS	16
CLASS AVERAGES	76.69

STUDENTS WITH VALID SCORES= 13

TITLE I CLASS TOTALS	648
TOTAL STUDENTS	9
TITLE I CLASS AVERAGES	81.00

STUDENTS WITH VALID SCORES= 8

MIGRANT CLASS TOTALS	349
TOTAL STUDENTS	7
MIGRANT CLASS AVERAGES	69.80

STUDENTS WITH VALID SCORES= 5

TITLE I PROGRAM TOTAL	8673
TOTAL STUDENTS	124
TITLE I PROGRAM AVERAGE	76.08

STUDENTS WITH VALID SCORES= 114

MIGRANT PROGRAM TOTAL	7471
TOTAL STUDENTS	121
MIGRANT PROGRAM AVERAGE	73.25

STUDENTS WITH VALID SCORES= 102

A-22

81.33

Attachment A-2  
(Page 5 of 5)

AUSTIN INDEPENDENT SCHOOL DISTRICT  
Office of Research and Evaluation

March 22, 1982

TO: Title I, Migrant, and Title VII Prekindergarten Teachers

FROM: Martin Arocena, Title VII Evaluator *MA*  
Catherine Christner, Migrant Evaluator *CC*  
Karen Carsrud, Title I Evaluator *KC*

SUBJECT: Prekindergarten Achievement Pretest

This spring the Peabody Picture Vocabulary Test (PPVT) will be given to all prekindergarten students as a measure of achievement. This will be the same revised version of the test administered last fall. Each student will receive the alternate form from the one they received in the fall. The testing dates will be April 19 - April 30 with make ups May 3-7.

The testing last fall was a resounding success experience for the students. Many teachers had informed their students about the test beforehand. Notes were sent home asking parents to be sure the child got lots of sleep and came to school on the scheduled test day. The testers were extremely pleased with how well the testing went for each child, and the children seemed to enjoy themselves, too.

Again, some important points to remember about the testing are:

- We will be calling each of you early in April, to schedule a testing date.
- We will start testing when your class begins in the morning and be finished before lunch.
- Each child will be tested individually and will be out of your class between ten and fifteen minutes.

Your cooperation will be greatly appreciated: Please feel free to call with any questions. We look forward to seeing each of you this spring.

Approved: *Bruce M. Holley*  
Director of Office of Research and Evaluation

Approved: *Ruth MacAllister*  
Assistant Superintendent for Elementary Education

CC:KC:MA:lfs

cc: Anita Uphaus  
Lee Laws  
Oscar Cantu  
Hermelinda Rodriguez  
Anita Coy

Timy Baranoff  
Ruth MacAllister  
Principals with Migrant, Title I, and Title VII pre-  
kindergarten teachers  
Eva Rivera

Attachment A-4

MEMO WITH RESULTS OF POSTTESTING

(Page 1 of 3)

AUSTIN INDEPENDENT SCHOOL DISTRICT  
Office of Research and Evaluation:

May 24, 1982

TO: Title I and Migrant Program Prekindergarten Teachers  
FROM: Catherine Christner, Karen Carsrud  
SUBJECT: Peabody Posttest Scores

Enclosed are the results from the posttesting of your students. For each student posttested, you will find a posttest standard score. If the student was also pretested, he/she will have a pretest score listed and a gain score listed. For your students, their language dominance (at the time of pretesting) is listed.

For each class and each program an average pretest score, an average post-test score, and an average gain score were computed. These data for your class and program are listed.

Please call us if you have any questions.

CC:lg  
Enclosure

cc: Anita Uphaus  
Oscar Cantú  
Lee Laws  
Timy Baranoff  
Principals with Pre-K Teachers

APPROVED: Greta Holler  
Director, Research and Evaluation

APPROVED: Ruth Mae Allister  
Assistant Superintendent for Elementary Education



PEABODY STANDARD SCORE RESULTS - TITLE I AND MIGRANT -

05/25/82

STUDENT NAME	STANDARD SCORES			LANG DOM
	PRE	POST	GAIN	
	64	97	33	ENG
	87	100	13	ENG
	66	71	5	ENG
	76	89	13	ENG
		71		ENG
	106	109	3	ENG
		97		ENG
	92	103	11	ENG
	58	84	26	ENG
	88	92	4	ENG
	82	93	11	ENG
	55	83	28	ENG
	26	47	21	SPAN
	73	93	20	ENG

CLASS AVERAGES      72.75 87.72 15.07

TITLE I PROGRAM AVERAGES      72.60 86.89 14.29

MIGRANT PROGRAM AVERAGES      66.15 77.67 11.52

STUDENTS PRETESTED      12  
STUDENTS POSTTESTED      14  
STUDENTS WITH VALID GAIN      12

STUDENTS PRETESTED      114  
STUDENTS POSTTESTED      122  
STUDENTS WITH VALID GAIN      114

STUDENTS PRETESTED      109  
STUDENTS POSTTESTED      116  
STUDENTS WITH VALID GAIN      109

81.33

Attachment A-4  
(Page 3 of 3)

## MODEL SPECIFICATION AND ANALYSIS

A series of linear models was used to make comparisons among the three programs on the pattern of achievement gains. A description of each model is as follows:

- Model 1: Contains separate linear, curvilinear and group membership components for each program. This allows for independent curvilinear regression lines.
- Model 2: Contains separate linear and group membership components, but a common curvilinear vector. This requires the quadratic component of the regression lines to be equal for each group, although the intercepts and slopes may differ for each group.
- Model 3: Contains separate group membership vectors but common linear and curvilinear vectors. This requires parallel curvilinear regression lines, although intercepts may differ.
- Model 4: Contains only a common linear and a common curvilinear vector. This requires parallel curvilinear regression lines with a common intercept.
- Model 5: Contains separate linear and group membership vectors, and no curvilinear vectors. This allows independent linear regression lines.
- Model 6: Contains separate group membership vectors, a common linear vector and no curvilinear vectors. This requires common linear slopes, although the intercepts may differ.
- Model 7: Contains only a common linear vector for each group. This requires common linear slopes and common intercepts.

The following comparisons were made to test for differential patterns among the three programs:

Model 1 vs Model 5: This tests whether the lines are curvilinear or linear. The results determine whether one examines the curvilinear or linear cascades for the best solution.

Model 1 vs Model 2: This tests whether the degree of curvilinearity is the same for each group; i.e., whether the quadratic components of the regression lines are equal for all groups.

Model 2 vs Model 3: This comparison determines whether the slopes of the regression lines are equal for all groups.

Model 1 vs Model 3: This tests whether the lines are parallel, in effect making the above two comparisons simultaneously.

Model 3 vs Model 4: This tests whether the lines are separate or have the same intercept, given that they are curved and parallel.

Model 5 vs Model 6: This tests whether the groups have common linear slopes.

Model 6 vs Model 7: This tests whether the groups have common linear intercepts.

In general, one first makes the Model 1 vs Model 5 comparison. If this test is significant, one examines the next four comparisons of Models 1, 2, 3, and 4. If the Model 1 vs Model 5 comparison is not significant, one examines the last two comparisons testing Models 5, 6, and 7.

ESEA Title I

Appendix B

IOWA TESTS OF BASIC SKILLS

Brief description of the instrument:

The ITBS is a standardized multiple-choice achievement battery. Level 5 was given to kindergarten students to measure skills in the areas of listening (spring only), language (fall and spring), and math (spring only). Levels 7 and 8 were given to grades 1 and 2, respectively, to measure skills in the areas of word analysis, vocabulary, reading comprehension, spelling, math concepts, math problems, and math computation. ITBS levels 9-14 were administered to grades 3-8 with the test level for students in grades 4-6 chosen on the basis of their previous achievement scores (with teacher review). Levels 9-14 include subtests in all the areas mentioned for levels 7 and 8, except for word analysis. In addition, levels 9-14 include subtests measuring capitalization, punctuation, usage, visual materials, and reference materials.

To whom was the instrument administered?

All elementary and junior high students, grades K-8. Special education students were exempted as per Board Policy 5127 and its supporting administrative regulation. Students of limited English proficiency (LEP) were not exempt, but could be excused after one test on which they could not function validly. Scores for students who were monolingual or dominant in a language other than English were not included in the school or District summaries.

How many times was the instrument administered?

Once to each student in grades 1-8, twice to students in kindergarten.

When was the instrument administered?

Kindergarten students were tested the week of September 8-11. The elementary schools administered the test April 20, 21, and 22 to students in grades K-6. The dates for the junior high administration were February 16, 17, and 18. Tests were administered in the morning. Make-ups were administered the week after the regular testing.

Where was the instrument administered?

In each AISD elementary and junior high school, usually in the student's regular classroom.

Who administered the instrument?

Classroom teachers in the elementary schools. In the junior high schools, the counselor or principal administered the test over the public address system using taped directions provided by ORE. Teachers acted as test monitors in their classrooms at these schools.

What training did the administrators have?

Building Test Coordinators participated in planning sessions prior to the testing. Teacher training was the responsibility of the Building Test Coordinator. However, teacher inservice training was available from ORE upon request. Teachers and counselors received written instructions from ORE, including a checklist of procedures and a script to follow in test administration.

Were there problems with the instrument or the administration that might affect the validity of the data?

No known problems with the instrument. Problems in the administration are documented in the monitors' reports which are available at ORE.

Who developed the instrument?

The University of Iowa. The ITBS is published by the Riverside Publishing Company (Houghton Mifflin Company).

What reliability and validity data are available on the instrument?

The reliability of the subtests, as summarized by Kuder-Richardson Formula 20 coefficient, ranges from .50 to .98, across subtests and levels. The issues of content and construct validity are addressed in the publisher's preliminary technical summary, pp. 13-15.

Are there norm data available for interpreting the results?

Norm data are available in the Teacher's Guide. The Teacher's Guide provides empirical norms (grade equivalent, percentile, stanine) for the fall and spring. Interpolated norms are available for midyear. National, large city, and school building norms are available.

## IOWA TESTS OF BASIC SKILLS

## Purpose

Results of the Iowa Tests of Basic Skills were used to answer the following decision and evaluation questions from the Title I Evaluation Design for 1981-82.

Decision Question D1: Should the Title I Reading Improvement Program be modified? If so, how?

Evaluation Question D1-1: Were the objectives of the Title I reading component met?

Evaluation Question D1-3: Did students served in the three various locations (classroom, lab, or both) differ in achievement gains?

Evaluation Question D1-5: How did the achievement of Title I students compare with that of a comparable group of formerly Title I students who had been in schools without Title I for two years?

Evaluation Question D1-6: Did 1980 At-Home Summer Program participants show larger achievement gains from April 1981 to April 1982 than the matched comparison groups?

Decision Question D2: Should Title I schoolwide projects be continued, expanded or revised? If so, how?

Evaluation Question D2-1: Were the objectives of the schoolwide projects met?

Evaluation Question D2-2: How did the achievement gains made by low-achieving students (30th percentile or below) in the schoolwide projects compare with the gains made by low-achieving students in regular Title I schools?

Evaluation Question D2-3: How did achievement gains made by high-achieving students (above 30th percentile) in the schoolwide projects compare with the gains made by high-achieving students in regular Title I schools?

Evaluation Question D2-4: How did the achievement gains of students who had participated in a schoolwide project for two years compare with students who had been in a regular Title I school for two years and participated in Title I during one or two years.

Decision Question D3: Should the Rainbow Kit project be continued, modified, or discontinued?

Evaluation Question D3-1: Did the achievement gains of Rainbow Kit participants exceed those of nonparticipants in the control group?

Evaluation Question D3-2: Do Title I students who have participated in Rainbow Kits at more than one grade level show greater achievement gains than students who have participated in: a) only one grade level of Rainbow Kits? b) no Rainbow Kits?

Decision Question D4: Should the Title I Early Childhood Education Program be continued; modified, or discontinued? If so, how?

Evaluation Question D4-2: Do former prekindergarten participants score higher than other students in their schools when they reach higher grade levels.

Information Need I2: How similar are the results when the schools are ranked for Title I eligibility in the various ways possible under the Title I regulations?

Information Need I3: How many students in each school scored below selected percentile points on the MRT and ITBS?

Information Need I4: How many students would be eligible for Title I services for various combinations of criteria for campus and student eligibility?

Information Need I7: Were the objectives of the Title I Program met?

#### Procedure

The Iowa Tests of Basic Skills were administered to K-8 students. Classroom teachers administered the tests, although a standardized pre-recorded tape was played over the public address system in each school. Teachers were provided a script of these instructions, in the event the tape was not audible for some reason. In addition, time was provided on the tape for teachers to answer students' questions concerning the instructions.

A data file containing 1982 ITBS scores for students in grades 2-8 was matched with a data file containing 1981 ITBS scores. For kindergartners, a file containing fall, 1981 and spring, 1982 ITBS scores was created. First graders had ITBS scores for only one year, because the ITBS was not given to kindergartners in the spring of 1981. Thus, their fall, 1981 MRT scores were added to the file as a pretest score.

Because of some irregularities in the spring, 1981 testing at Becker, "special circumstances" codes were added to the records of some Becker first-grade students for that year, before the present analyses were conducted. The procedures used for determining which children should have special circumstances for their 1981 scores is documented in Attachment B-10.

### Analyses

The major analyses used in this appendix were a series of regression model comparisons. Appendix A (Attachment A-5) of this report discusses in detail the models and comparisons which were used. Briefly, the comparisons test the following hypotheses:

Is the relationship between the pre- and post-test linear or curvilinear?

If the relationship is curvilinear, is the degree of curvilinearity the same for each group?

Are the regression lines for each group parallel or do they have different slopes?

If the regression lines are parallel, are the lines the same, or do they have different intercepts?

In all analyses, students who were missing either a pretest or posttest score were omitted. In addition, students with special circumstances marked on either their pre- or post-test scores were omitted. LEP and Special Education students with valid pre- and post-test scores were included. Throughout the report, the dependent variable is the Reading Total grade equivalent score for each student, except at kindergarten, where Language Total grade equivalent was used. The pretest at grades 1-6 is the previous year's reading grade equivalent, except for first graders, where the MRT pre-reading composite raw score was used.

### Results

Results are presented below for each evaluation question or information need.

Evaluation Question D1-1 (and Information Need I7): Were the objectives of the Title I reading component met?

Objectives for the program were measured by assessing the gains of students who were served by Title I on both Fall and Spring Service Reports. For grades 2-6, percentile gains were measured from spring, 1981 to spring, 1982. For kindergartners, gains were measured from fall, 1981 to spring, 1982, while objectives for first grade were specified in terms of the percentage of students who would reach each of various grade-equivalent criteria.

Attachment B-1 gives the objectives for the program, along with the percentage of students who met the objectives, for each grade level. Although it is difficult to assess these stratified objectives, one way of examining them is to note the percentage of students who actually showed normal gains or less, compared with the percentage of students expected to show normal gain or less. In general, at grades K, 2, and 3 a much larger than expected percentage of students showed greater than normal gains. At grades 1, 4, and 6, student gains were approximately the same as expected. At grade 5, gains were slightly lower than expected. Attachment B-11 shows results on the objectives for students who were served by the Title I program on either



the Fall or Spring Service Report. Results are similar to those for students served on both reports.

Because the objectives were based on performance of Title I students below the 30th percentile the previous year, exceeding the stated objectives at grades K, 2 and 3 may indicate an improved program at those levels.

Evaluation Question D2-1 (and Information Need I7): Were the objectives of the schoolwide projects met?

Attachment B-2 shows the actual and expected gains of students in Allison and Becker. The objectives were based on the large student gains found for 1980-81 and, thus, are quite difficult to meet. At both Allison and Becker, the objectives appear to have been met or exceeded at grades K. Allison also met or exceeded their objectives at grade 1. However, at other grade levels the objectives were not met. Apparently, the large student gains in 1980-81 resulted in objectives that were difficult to meet in 1981-82:

It is difficult to compare the two types of Title I programs (regular vs. schoolwide projects) on the basis of these stratified objectives. First, the objectives for schoolwide projects were much more difficult than for the regular Title I program. Second, the students in the two programs are not necessarily comparable. However, it may be useful to compare how well the two programs succeeded in raising students achievement to levels where they exited from the Title I program (above the 30th percentile).

Figure B-1 shows the number of students in schoolwide projects and the regular Title I program who would be eligible to exit at each grade level. At grades K-3 and 5-6, the percentage of formerly low-achieving students who now score high enough to exit the Title I program was greater for the schoolwide projects than for the regular Title I program. This advantage for schoolwide project students was greatest at grade K.

#### COMPARISONS OF STUDENTS IN THREE TYPES OF SCHOOLS

Several questions in the Evaluation Design addressed the need for comparisons among students in traditional Title I attendance areas, the regular Title I program, and schoolwide Title I projects. These questions are:

Evaluation Question D1-5: How did the achievement of Title I students compare with that of a comparable group of formerly Title I students who had been in schools without Title I for two years?

Evaluation Question D2-2: How did achievement gains made by low-achieving students in the schoolwide projects compare with the gains made by low-achieving students in regular Title I schools?

Evaluation Question D2-3: How did achievement gains made by high-achieving students in the schoolwide projects compare with the gains made by high-achieving students in regular Title I schools?

Evaluation Question D2-4: How did the achievement gains of students who had participated in a schoolwide project for two years compare with students who had been in a regular Title I school for two years and participated in Title I during one or two years?



The groups of students in the analyses were defined as follows:

Low-achieving students: students at or below the 30th percentile on the pretest.

High-achieving students: students above the 30th percentile on the pretest.

Schoolwide project students: students in Allison and Becker during the 1981-82 school year.

Regular Title I students: students attending a school with a regular Title I program, and who reside in a traditional Title I attendance areas. For these analyses, students were not necessarily served by the Title I program, however.

Former Title I students: students who reside in areas that were traditionally Title I attendance areas, prior to desegregation. Those areas were defined as areas where students would have attended Title I schools in 1979-80 (except Mathews). Thus, it is their attendance area that is "formerly Title I", rather than each student.

#### ONE YEAR GAINS

For each grade level, regular Title I students, schoolwide project students, and students who were from former Title I attendance areas were compared on spring, 1982 ITBS Reading Total scores, using Models 1-7. For kindergartners, ITBS language scores were used. For first graders, the pretest was the fall, 1981 MRT raw score. The analyses were conducted separately for low and high achieving students. Students with missing scores or "Special Circumstances" were omitted from the analyses. After testing for overall differences among the three groups, pairwise comparisons among the groups were also made. Attachments B-3 and B-4 contain the F tests for all comparisons.

Figures B-2 and B-3 show the mean pretest, posttest, and unadjusted gain for each grade level and type of school. Figures B-4 and B-5 are bar charts of these gains. (Data for first-graders are shown in percentiles, while data for other grade levels are shown in grade equivalents.) Figures B-11 through B-17 show plots of expected values at each grade level for each group of students. These plots are a better reflection of the gains of students in each type of school, since they take into account pretest differences between the groups.

Comparisons of gains for low-achieving students in regular Title I schools with those of schoolwide project students show that *low-achieving schoolwide project students made significantly greater gains at grades K and 1, and significantly smaller gains at grade 4.* Among high-achieving students, schoolwide project students made significantly lower gains at grade 2. However, this may be due to residual effects of inflated pretest scores at grade 2 at Becker (see Attachment B-10).

Comparisons of low-achieving students in regular Title I schools with students from former Title I attendance areas show that *low-achieving students from former Title I areas made significantly greater gains than students in regular Title I schools at grades K and 1.* Among high-achieving students, students from former Title I areas made significantly greater gains at grades K, 1, and 5.

Low-achieving students in schoolwide projects made smaller gains than low-achieving students from former Title I attendance areas at grade K and 4. At grades 1 and 3, gains for low-achieving schoolwide project students were greater than for students from former Title I attendance areas. High-achieving schoolwide project students made smaller gains at grades K and 1 and larger gains at grade 3 than did students from former Title I attendance areas.

### Two Year Gains

Gains for students in grades 2-6 who had been in a regular Title I school, a schoolwide project school, or a former Title I attendance areas for two years (1980-81 and 1981-82) were compared. Spring, 1980 scores were used as a pretest. Analyses were again conducted separately for low and high achieving students.

The results for low-achieving students indicate that there was a significant advantage for second- and third-grade schoolwide project students over students in regular Title I schools for two years. (The advantage for schoolwide project students was close to being statistically significant for fifth and sixth-grade students.) In addition, current second-grade students from former Title I areas gained more than students in regular Title I schools. Finally, for students in third and fifth grade, schoolwide project students gained more than students from former Title I areas. Attachment B-5 contains the F-tests for these comparisons, and Figures B-6 through B-7 show the average gains across two years.

The results for high-achieving students across the two years indicated that schoolwide project students currently in grades 3 and 4 gained more across the two years than students in regular Title I schools. At grade 2, students from former Title I areas gained significantly more than students in regular Title I schools. Schoolwide project students in grade 2 gained less at grade 2 and more at grade 3 than students from former Title I areas. Attachment B-6 contains F-tests for these comparisons.

### Conclusions

The clear advantage that was noted in last years' evaluation for schoolwide project students over students in regular Title I schools is no longer as clear. The one and two-year analyses for this year both suggest that schoolwide projects are more effective than the regular Title I program at the earlier grades (K-3), but not at higher grade levels. Part of the reason for the difference in findings between the evaluations from the two years may be the increased effectiveness of the District's regular Title I program. Thus, the standard of comparison for schoolwide projects is more rigorous this year. However, mean gains for schoolwide projects students this year were also not as large as last year: the gains of the full year for a year of instruction that were noted for last year's schoolwide project students occurred only at grades 3 and 6 this year.

Schoolwide projects are expensive, because additional local funds must be added to the Title I funds. If sustained, reliable, or consistent benefits for the program are found only for younger students, the District may wish to consider implementing schoolwide projects only at the K-3 levels.

Evaluation Question D3-1: Did the achievement gains of Rainbow Kit participants exceed those of nonparticipants in the control group?

Scores of students who participated in the reading Rainbow Kits were compared with scores of students who did not participate in any Rainbow Kits. Students at Allan were omitted from the analyses because they were part of the comparison group, but actually did receive some reading kits. Models 1-7 were used in the comparison; results of the F tests are included in Attachment B-7.

Significant differences between the groups were found at grades K, and 2-4. Figure B-8 gives the mean pretest, posttest, and gain for the two groups at each grade, and Figure B-9 is a bar graph of grades with significant differences. Figure B-18 through B-21 plot the results at grades K, and 2-4.

The figures indicate that Rainbow Kit participants gained significantly more than the comparison group at grades 2 and 4, and gained significantly less than the comparison group at grades K and 3.

In interpreting these results, it is important to remember that differences probably existed among schools and grade levels in the ways that kits were distributed, the number of kits each child received, and the amount of coordination between the kits and classroom instruction. Parents had previously reported that they like the kits (see the ESEA Title I Final Technical Report for 1980-81.) The lack of any consistent positive effect of reading Rainbow Kits on achievement must therefore be considered in light of this positive parent reaction.

Evaluation Question D3-2. Do Title I students who have participated in Rainbow Kits at more than one grade level show greater achievement gains than students who have participated in:

- a) only one grade level of Rainbow Kits?
- b) no Rainbow Kits?

In 1980-81, reading Rainbow Kits were piloted at six schools. Approximately one-half of the students at each grade level across those six schools received the kits, and the remaining students served as a control group. In 1981-82, eight schools received reading Rainbow Kits, but only two of the original six pilot schools received them for a second year. As a result the number of students at each grade level that received two kits and had three years of valid test scores was too small to allow valid comparisons. If the kits are used again in 1982-83, the question of the differences among groups who have participated in zero, one, or two kits should probably be considered again.

Evaluation Question D1-3: Did students served in the three various locations (classroom, reading lab, or both classroom and lab) differ in achievement gains?

Students in the regular Title I Program who were served in the same location on both Service Reports were compared on reading achievement using Models 1-7. Significant differences were found among the three groups only at grades 2, 5, and 6. Attachment B-8 contains F statistics for the comparisons of all three groups, and also for pairwise comparisons of two groups at a time for grades 2, 5, and 6.

Figure B-10 is a bar chart showing the average gain in reading grade equivalents for the three locations of service at grades 2, 5, and 6. Figures B-22 through B-24 plot the gains for the three groups across various pretest levels of achievement. The model used to plot the gains is indicated on each figure. In some cases, a simpler model is used to plot the data, rather than the most statistically precise one, so that differences between groups are more interpretable. At all three grade levels, students served in both the class and lab combined showed greater mean gains than students served in only the classroom. (At grades 5 and 6, gains for students served in both the class and lab combined were also significantly greater than for students served only in the lab.) However, the plots in Figures B-22 through B-24 also indicate that the advantage for students served in both class and lab was primarily for students with higher pretest scores.

It is possible that students served in both the class and lab were receiving greater quantities of instruction than students served only in one location. (Reports by some principals (see Appendix G) indicated that many Title I children served only in the lab or classroom may not have spent any more time in reading instruction than did their non-Title I peers.) When students served in one manner or location receive more reading instruction than other Title I students, it is difficult to determine if the differences are due to the different quantity or the different quality of time spent in instruction.

It should be noted (from principals' comments and also Appendix C) that a larger percentage of Title I students were served primarily in the classroom for 1981-82 than in previous years. It is possible that this change is partially responsible for the program having met or exceeded the objectives at all grade levels except for grade 4.

Evaluation Question D1-6: Did 1980 At-Home Summer Program participants show larger achievement gains from April, 1980 to April, 1982 than the matched comparison group?

Title I offered a home-based summer instructional program to about 300 Title I students during the summer of 1980. Evaluation of the effects of the program was conducted at the end of the summer, and again the following spring. No positive effects of the program on students' achievement were found. As a follow-up to check for possible long-term benefits, At-Home students and controls were compared again at the end of 1982. Gains of At-Home participants and controls did not differ at any grade level. Attachment B-9 contains the F-tests for these comparisons.

(A) Number of Students in 1981-82 Below the 30th Percentile at the Beginning of the Year, <sup>1</sup> Who Were Served by Title I All Year.			(B) Number and Percentage of Students in Column A Who Were Above the 30th Percentile at the End of 1981-82 Year.		
Grade	Regular T-I Program	Schoolwide Project	Regular Title I	Schoolwide Projects	
K	277	95	76 (27.4%)	40	(42.1%)
1	341	48	127 (37.2%)	20	(41.7%)
2	220	33	58 (26.4%)	9	(27.3%)
3	308	69	83 (26.9%)	22	(31.9%)
4	255	35	37 (14.5%)	4	(11.4%)
5	262	30	32 (12.2%)	5	(16.7%)
6	241	19	17 ( 7.1%)	3	(15.8%)

FIGURE B- 1. NUMBER AND PERCENTAGE OF LOW-ACHIEVING TITLE I STUDENTS  
IN REGULAR TITLE I AND SCHOOLWIDE PROJECTS WHO WERE  
ABOVE THE 30TH PERCENTILE AFTER THE 1981-82 SCHOOL YEAR.

<sup>1</sup>Only students with valid pre- and post-test scores are included.

1981-82

UNADJUSTED

Grade	Type of School	Pre	Post	GAIN
K	Regular Title I (N=446)	-.420	.213	.634
	Schoolwide Project (N=90)	-.446	.310	.756
	Former Title I Area (N=58)	-.353	.398	.752
1 (%ile points)	Regular Title I (N=213)	17.185	28.018	10.833
	Schoolwide Project (N=43)	17.209	32.326	15.116
	Former Title I Area (N=79)	16.899	32.456	15.557
2	Regular Title I (N=213)	1.077	1.943	.866
	Schoolwide Project (N=33)	1.058	1.958	.900
	Former Title I Area (N=68)	1.126	1.951	.825
3	Regular Title I (N=241)	1.828	2.800	.972
	Schoolwide Project (N=65)	1.763	2.854	1.091
	Former Title I Area (N=63)	1.894	2.821	.927
4	Regular Title I (N=205)	2.491	3.295	.803
	Schoolwide Project (N=31)	2.432	3.087	.655
	Former Title I Area (N=219)	2.408	3.171	.763
5	Regular Title I (N=251)	3.227	4.163	.936
	Schoolwide Project (N=25)	3.188	3.892	.704
	Former Title I Area (N=221)	3.137	4.004	.867
6	Regular Title I (N=186)	3.826	4.811	.984
	Schoolwide Project (N=16)	3.825	4.956	1.131
	Former Title I Area (N=217)	3.830	4.899	1.068

Figure B-2 . AVERAGE GAIN IN ACHIEVEMENT FOR LOW-ACHIEVING ( $\leq 30$  %ile) STUDENTS IN THREE TYPES OF SCHOOLS. (GAIN IS SHOWN IN GRADE EQUIVALENTS, EXCEPT AT GRADE 1 WHICH IS SHOWN IN PERCENTILE POINTS.)



1981-82		UNADJUSTED		
Grade	Type School	Pre	Post	GAIN
K	Regular Title I (N=190)	.555	1.268	.713
	Schoolwide Project (N=18)	.267	1.100	.833
	Former Title I Area (N=80)	.822	1.819	.996
1 (%ile points)	Regular Title I (N=460)	60.726	57.730	-2.996
	Schoolwide Project (N=108)	59.019	56.648	-2.370
	Former Title I Area (N=290)	64.990	65.800	.810
2	Regular Title I (N=412)	2.222	3.015	.793
	Schoolwide Project (N=76)	2.163	2.680	.517
	Former Title I Area (N=232)	2.452	3.194	.742
3	Regular Title I (N=353)	3.251	4.065	.814
	Schoolwide Project (N=80)	3.100	4.029	.929
	Former Title I Area (N=159)	3.283	4.099	.816
4	Regular Title I (N=301)	4.173	5.016	.838
	Schoolwide Project (N=30)	3.907	4.760	.853
	Former Title I Area (N=266)	4.138	5.029	.891
5	Regular Title I (N=237)	5.242	6.138	.897
	Schoolwide Project (N=31)	4.990	6.061	1.071
	Former Title I Area (N=241)	5.318	6.308	.990
6	Regular Title I (N=222)	6.492	7.438	.946
	Schoolwide Project (N=17)	5.941	6.859	.918
	Former Title I Area (N=209)	6.454	7.416	.962

Figure B- 3. AVERAGE GAIN IN ACHIEVEMENT FOR HIGH-ACHIEVING (> 30 %ile) STUDENTS IN THREE TYPES OF SCHOOLS. (GAIN IS SHOWN IN GRADE EQUIVALENTS, EXCEPT AT GRADE 1 WHICH IS SHOWN IN PERCENTILE POINTS.)



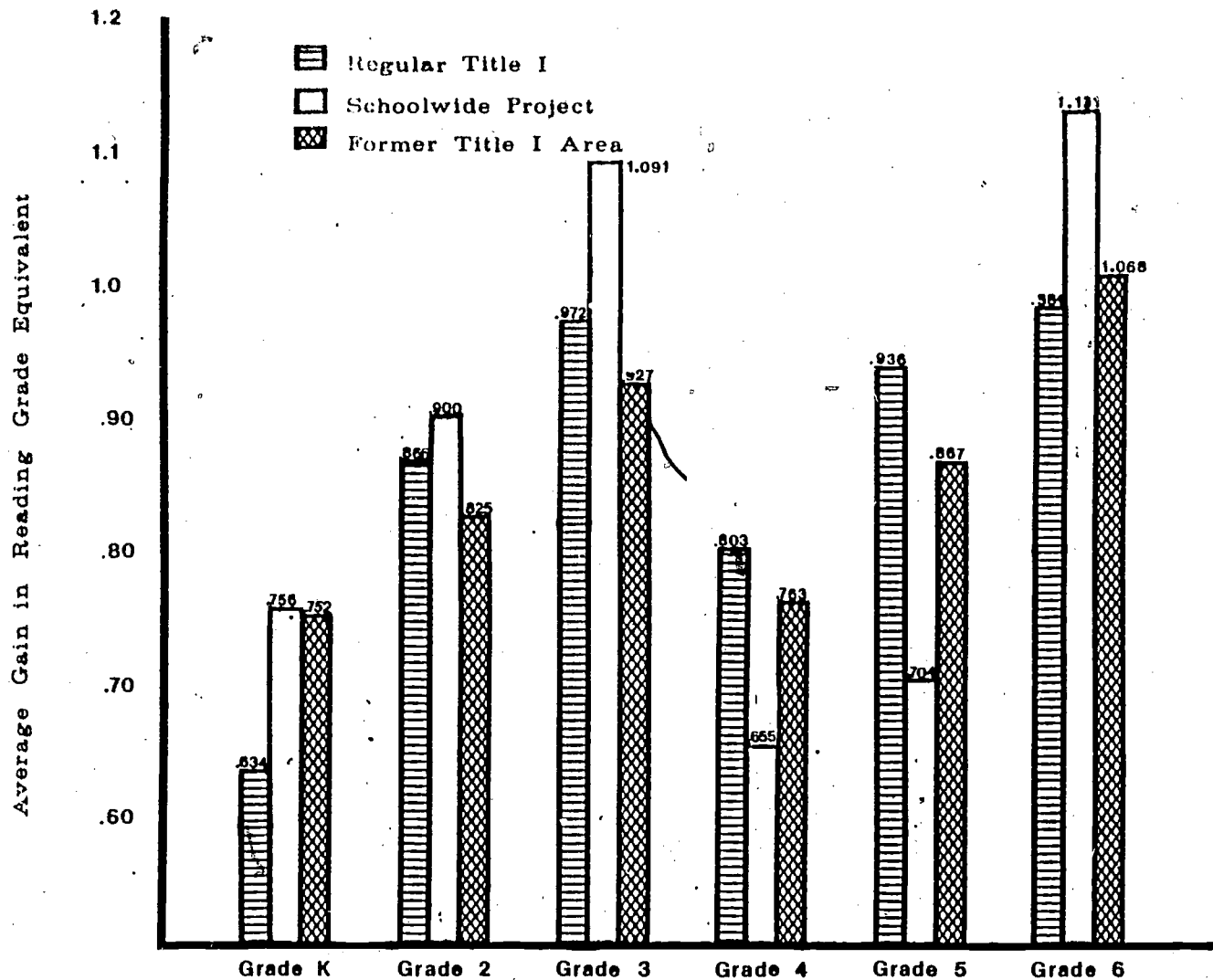
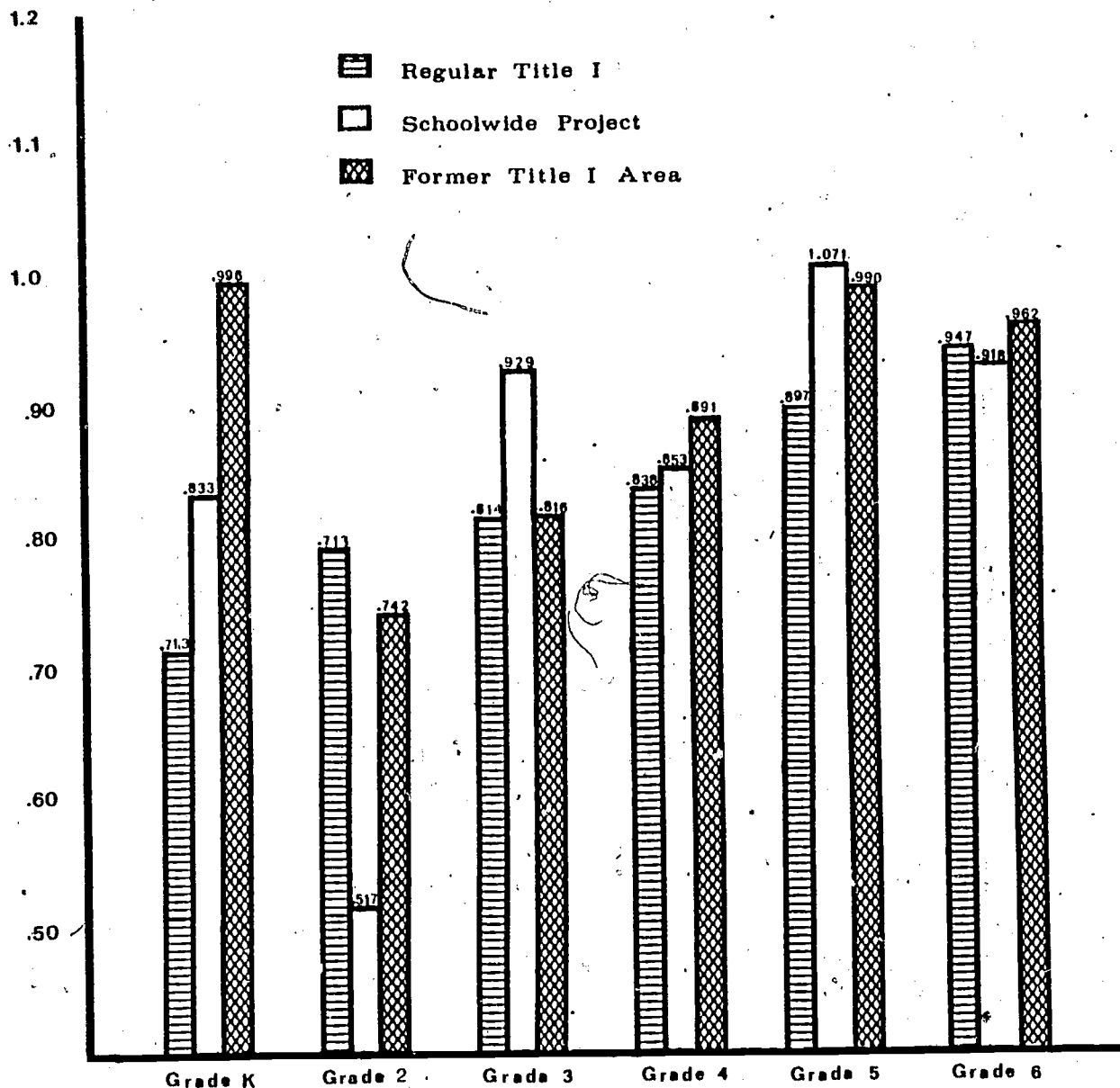


Figure B-4. AVERAGE GAIN IN READING GRADE EQUIVALENT FOR LOW ACHIEVING ( $\leq 30\%$ ) STUDENTS IN THREE TYPES OF SCHOOLS.

Average Gain in Reading Grade Equivalent



71

1981-82 Grade	Type of School	Spring 80 Pre	Spring 82 Post	UNADJUSTED GAIN
2	Regular Title I (N=248)	11.319	36.266	24.948
	Schoolwide Project (N=86)	12.488	46.395	33.907
	Former Title I Area (N=165)	10.933	45.303	34.370
3	Regular Title I (N=101)	1.093	3.000	1.907
	Schoolwide Project (N=39)	1.008	3.123	2.115
	Former Title I Area (N=34)	1.050	2.926	1.876
4	Regular Title I (N=96)	1.780	3.404	1.624
	Schoolwide Project (N=26)	1.612	3.208	1.596
	Former Title I Area (N=94)	1.878	3.441	1.564
5	Regular Title I (N=144)	2.524	4.125	1.601
	Schoolwide Project (N=17)	2.447	4.329	1.882
	Former Title I Area (N=192)	2.476	3.996	1.521
6	Regular Title I (N=127)	3.170	4.943	1.772
	Schoolwide Project (N=13)	3.146	5.277	2.131
	Former Title I Area (N=213)	3.111	5.050	1.938

Figure B-6. AVERAGE GAIN IN ACHIEVEMENT ACROSS TWO YEARS FOR LOW-ACHIEVING ( $\leq 30$  %ile) STUDENTS IN THREE TYPES OF SCHOOLS. (GAIN IS SHOWN IN GRADE EQUIVALENTS, EXCEPT AT GRADE 2 WHICH IS SHOWN IN PERCENTILE POINTS.)

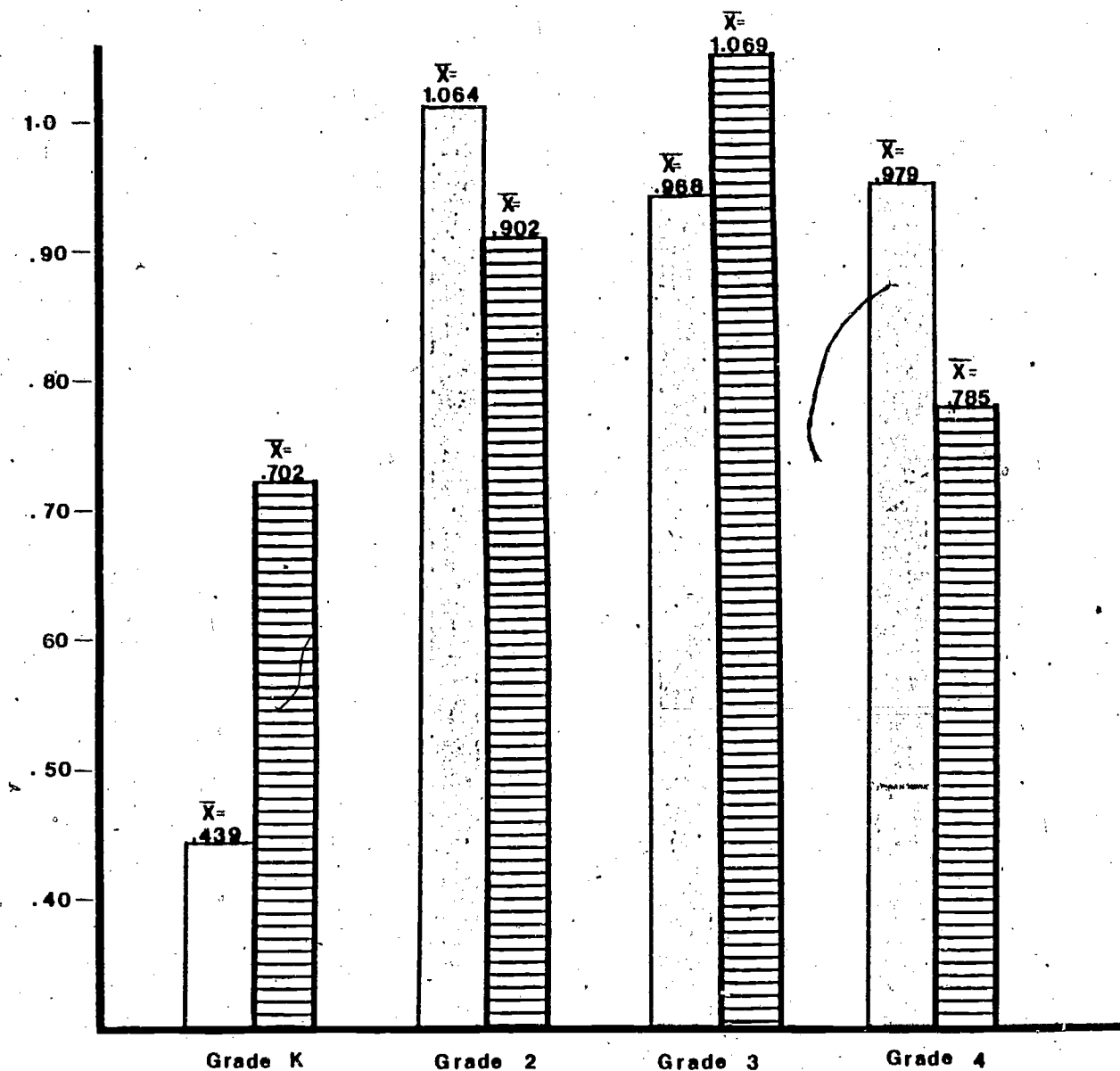
1981-82 Grade	Type of School	Spring 80 Pre	Spring 82 Post	UNADJUSTED GAIN
2	Regular Title I (N=209)	67.211	57.172	-10.038
	Schoolwide Project (N=54)	66.148	54.796	-11.352
	Former Title I Area (N=203)	69.483	66.749	- 2.734
3	Regular Title I (N=165)	2.090	3.544	1.454
	Schoolwide Project (N=73)	2.052	3.675	1.623
	Former Title I Area (N=136)	2.443	4.038	1.595
4	Regular Title I (N=131)	3.400	5.203	1.803
	Schoolwide Project (N=19)	2.926	4.947	2.021
	Former Title I Area (N=159)	3.348	5.272	1.924
5	Regular Title I (N=135)	4.093	6.033	1.940
	Schoolwide Project (N=20)	4.080	6.190	2.110
	Former Title I Area (N=250)	4.226	6.278	2.052
6	Regular Title I (N=120)	5.297	7.362	2.065
	Schoolwide Project (N=14)	4.729	6.771	2.043
	Former Title I Area (N=203)	5.257	7.353	2.096

Figure B-7. AVERAGE GAIN IN ACHIEVEMENT ACROSS TWO YEARS FOR HIGH-ACHIEVING (> 30 %ile) STUDENTS IN THREE TYPES OF SCHOOLS. (GAIN IS SHOWN IN GRADE EQUIVALENTS, EXCEPT AT GRADE 2 WHICH IS SHOWN IN PERCENTILE POINTS.)

Grade	Rainbow Kit Participants			Comparison Group		
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
K	-.451	-.012	.439 N=88	-.409	.293	.702 N=530
1	17.328	33.586	16.259 N=116	17.258	31.091	13.833 N=318
2	1.023	2.088	1.064 N=73	1.068	1.971	.902 N=215
3	1.798	2.766	.968 N=127	1.854	2.923	1.069 N=304
4	2.548	3.528	.979 N=97	2.549	3.334	.785 N=272
5	3.113	4.145	1.032 N=71	3.289	4.256	.968 N=305
6	3.904	5.008	1.104 N=73	3.906	4.891	.986 N=254

Figure B-8 . MEAN PRETEST, POSTTEST, AND GAIN FOR RAINBOW KIT PARTICIPANTS AND A COMPARISON GROUP. (Gains are in grade equivalents, except for grade 1, which is in percentiles.)

Average Gain in Reading Grade Equivalent



Key:



Rainbow Kit Part.



Comp. Group

75

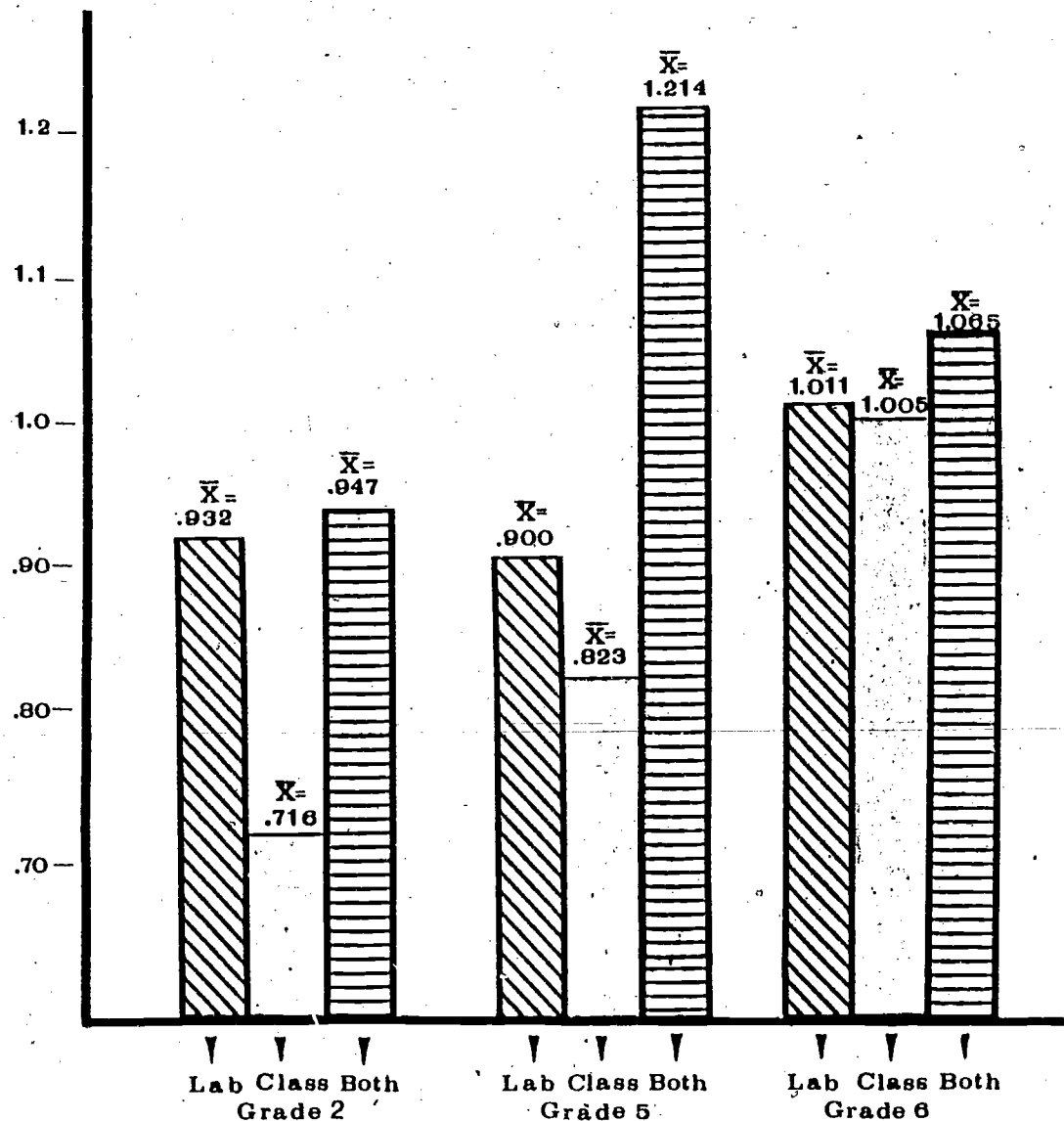


Figure B-10. AVERAGE GAINS FOR STUDENTS SERVED BY TITLE I IN LAB, CLASS, OR BOTH LAB AND CLASS, AT GRADE LEVELS WITH SIGNIFICANT DIFFERENCES BETWEEN THE GROUPS.

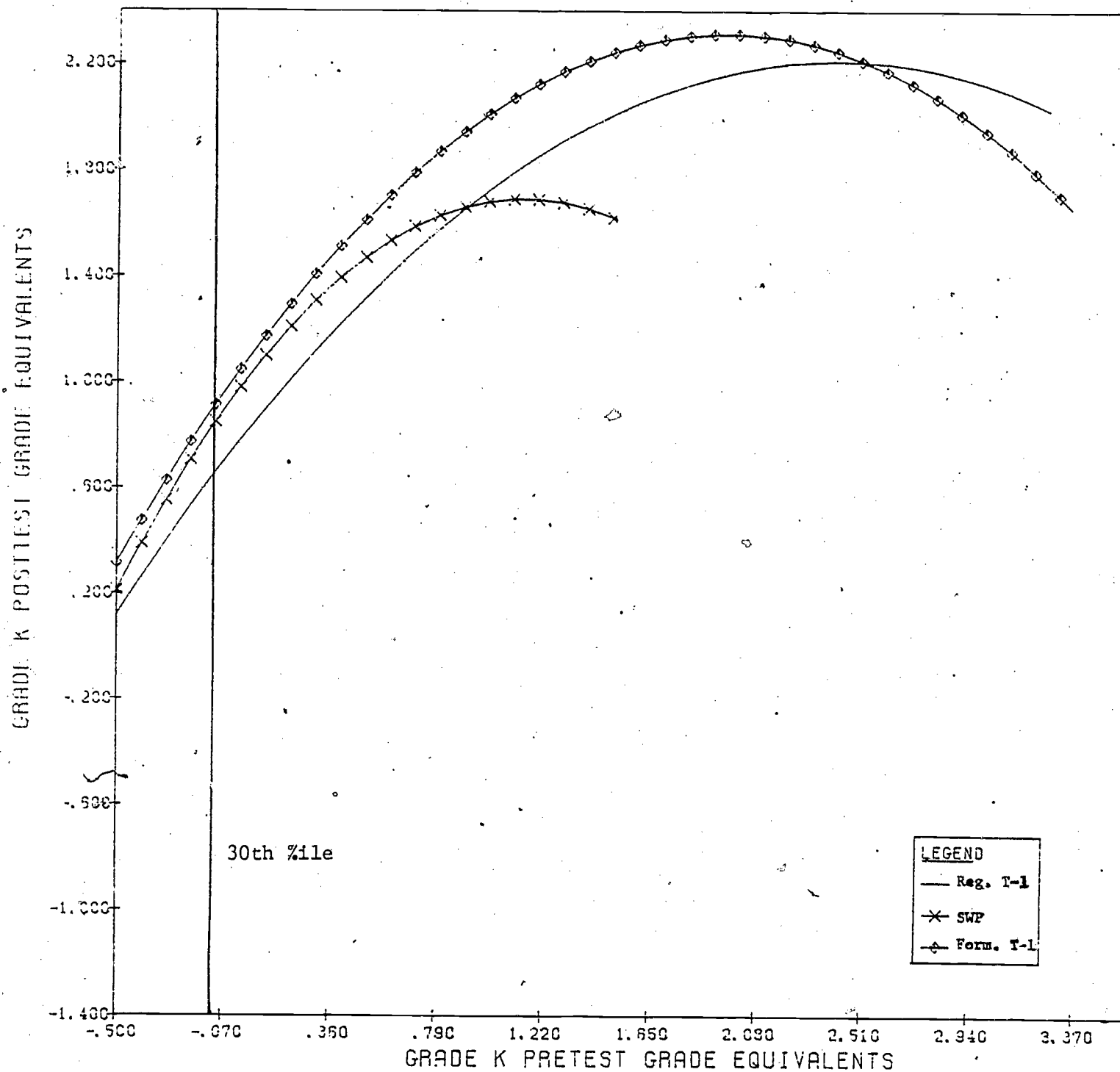
Figures B-11 through B-17

POSTTEST ACHIEVEMENT (1982) FOR STUDENTS IN THREE TYPES OF SCHOOLS  
(REGULAR TITLE I, SCHOOLWIDE PROJECT, OR FORMER TITLE I AREA)

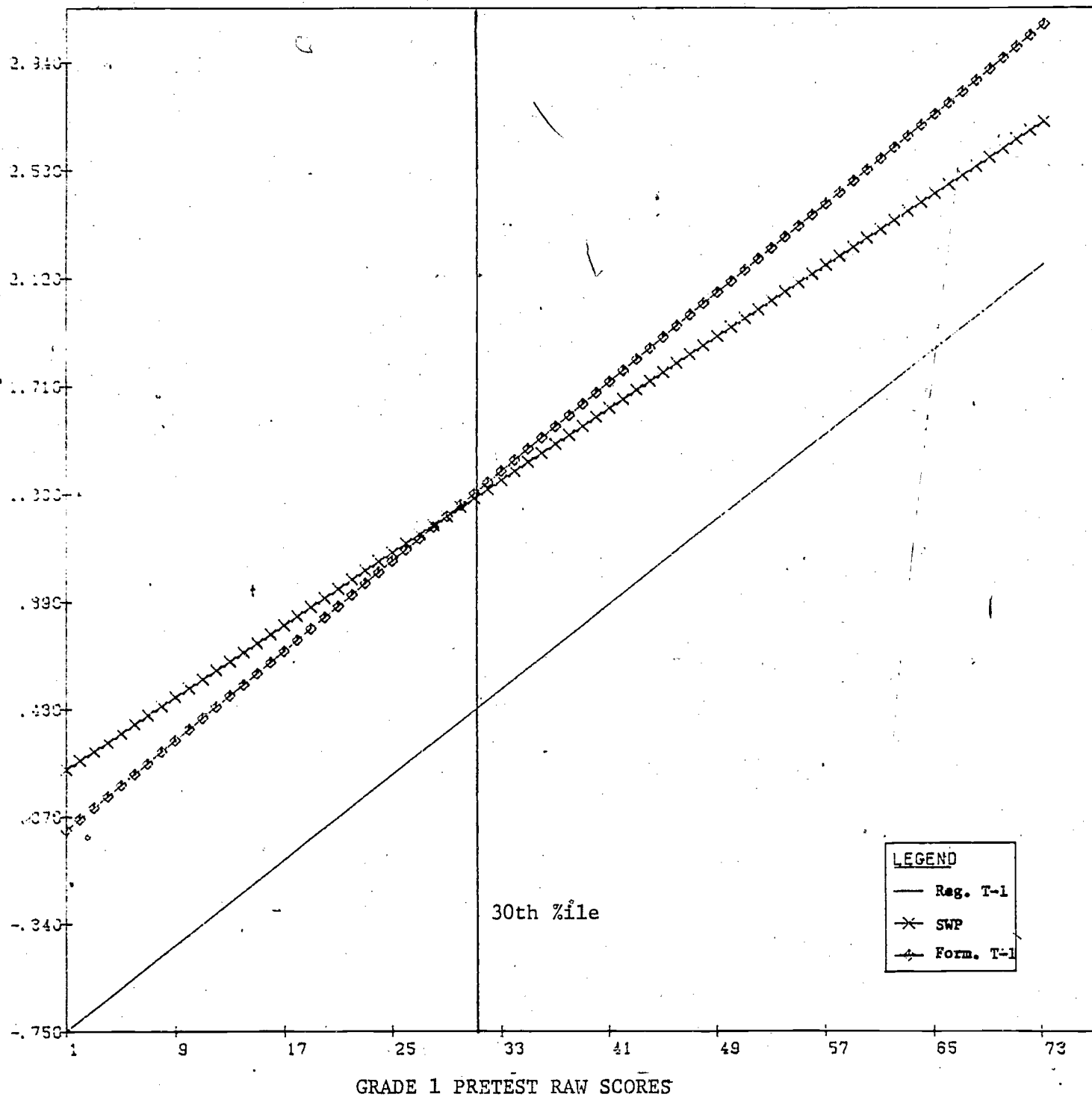
(Page 1 of 8)



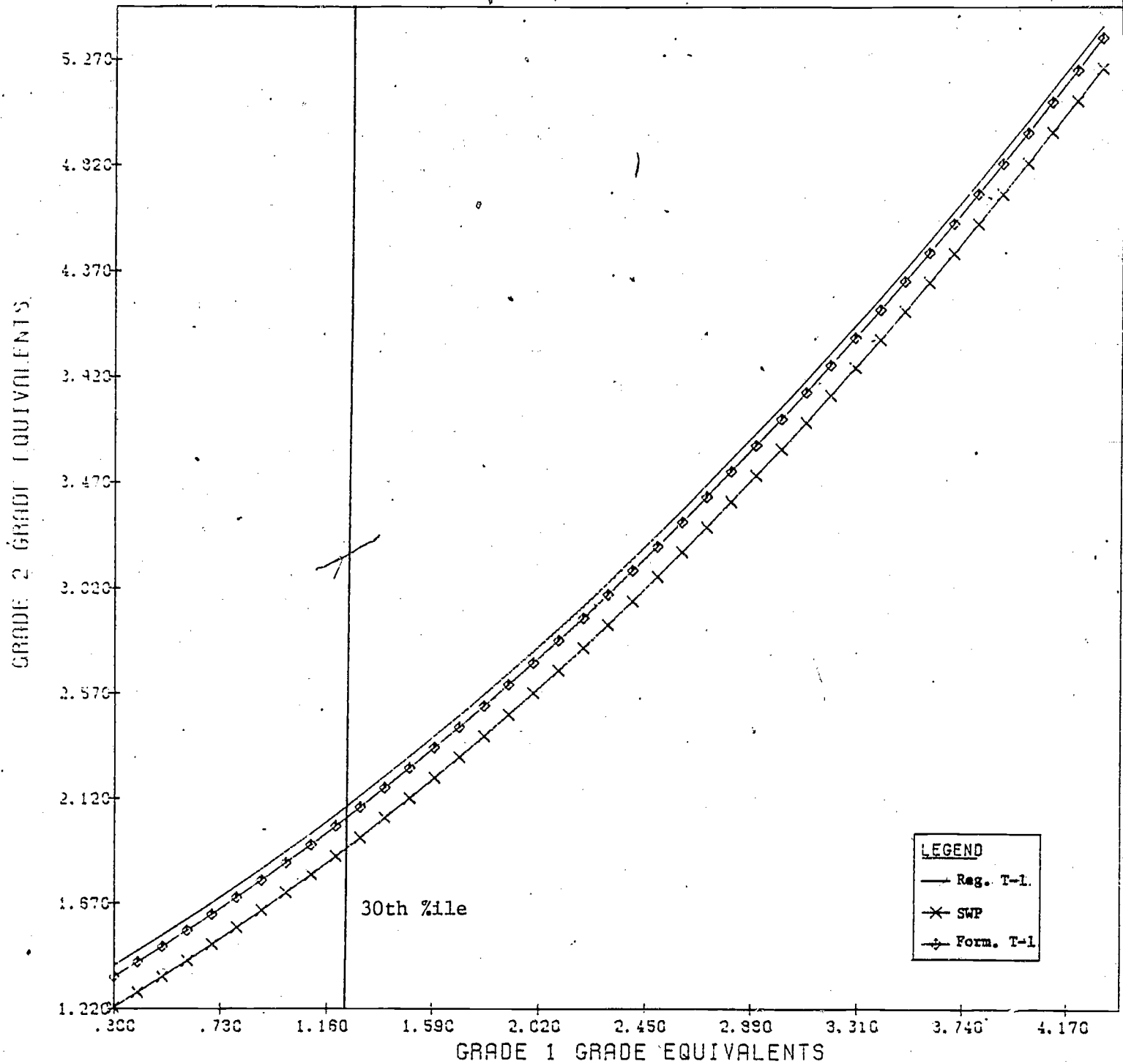
## 3 TYPES OF SCHOOLS - GRADE K - MODEL 1



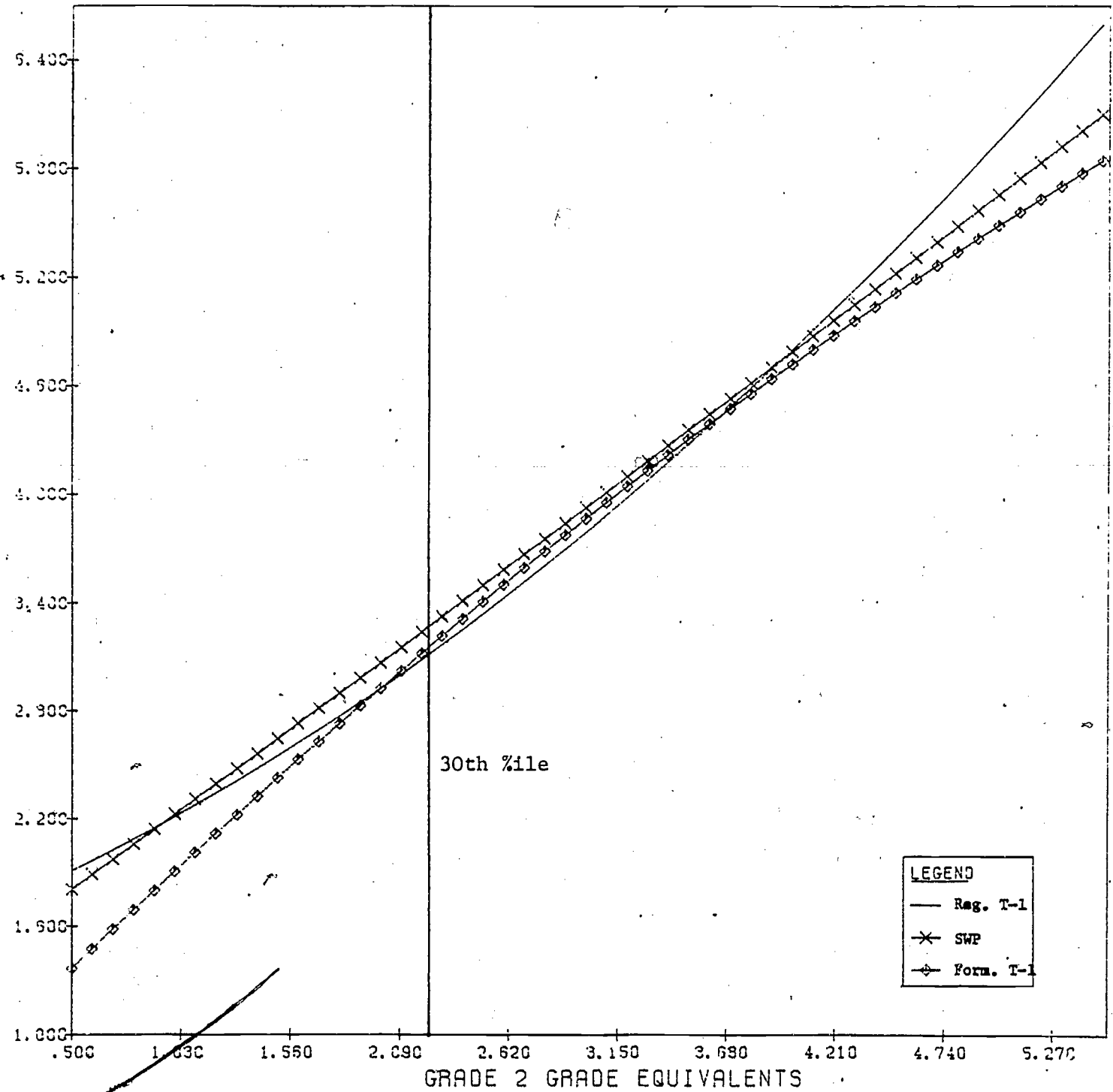
## 3 TYPES OF SCHOOLS - GRADE 1, - MODEL 2



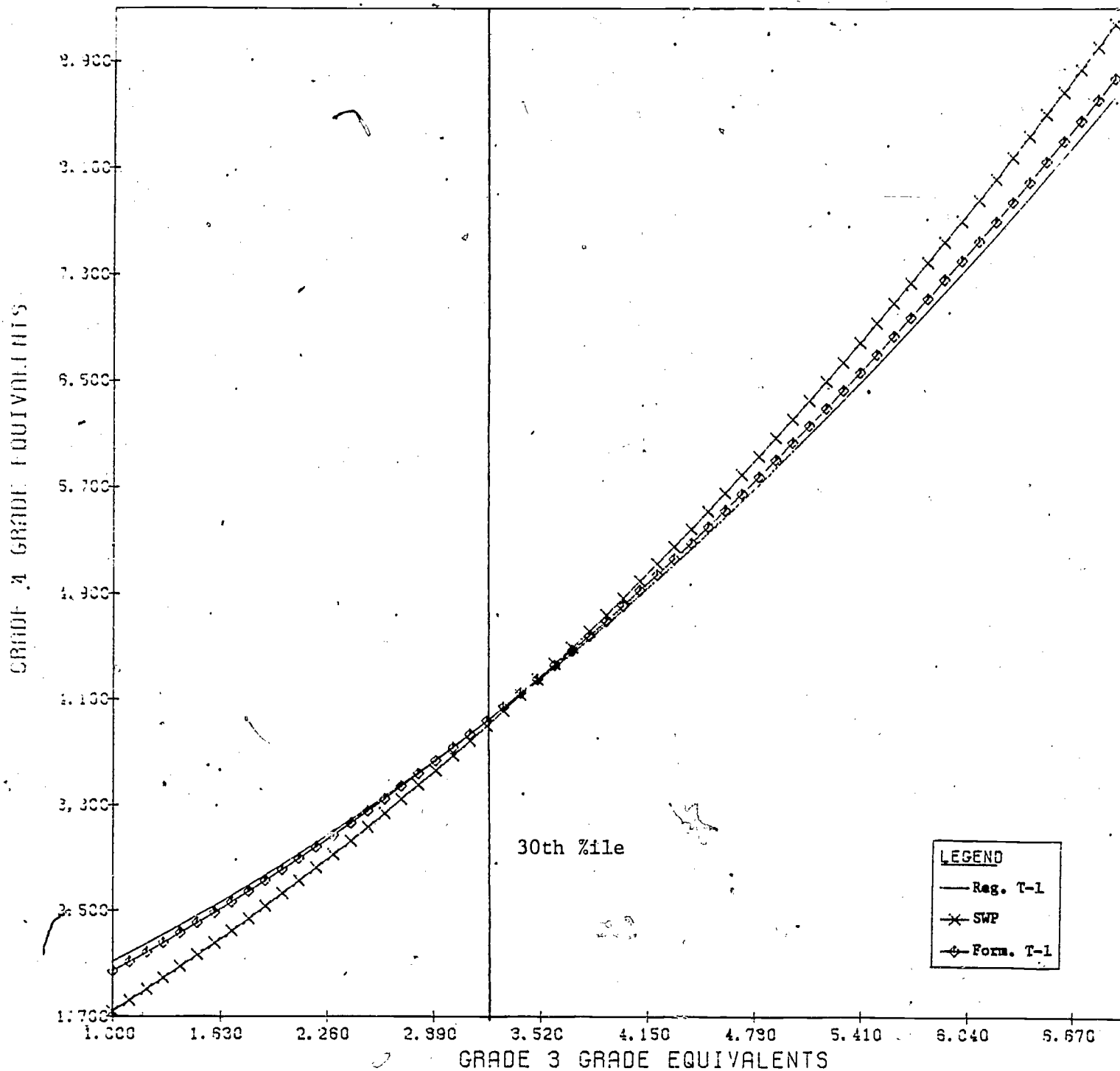
## 3 TYPES OF SCHOOLS - GRADE 2 - MODEL 3



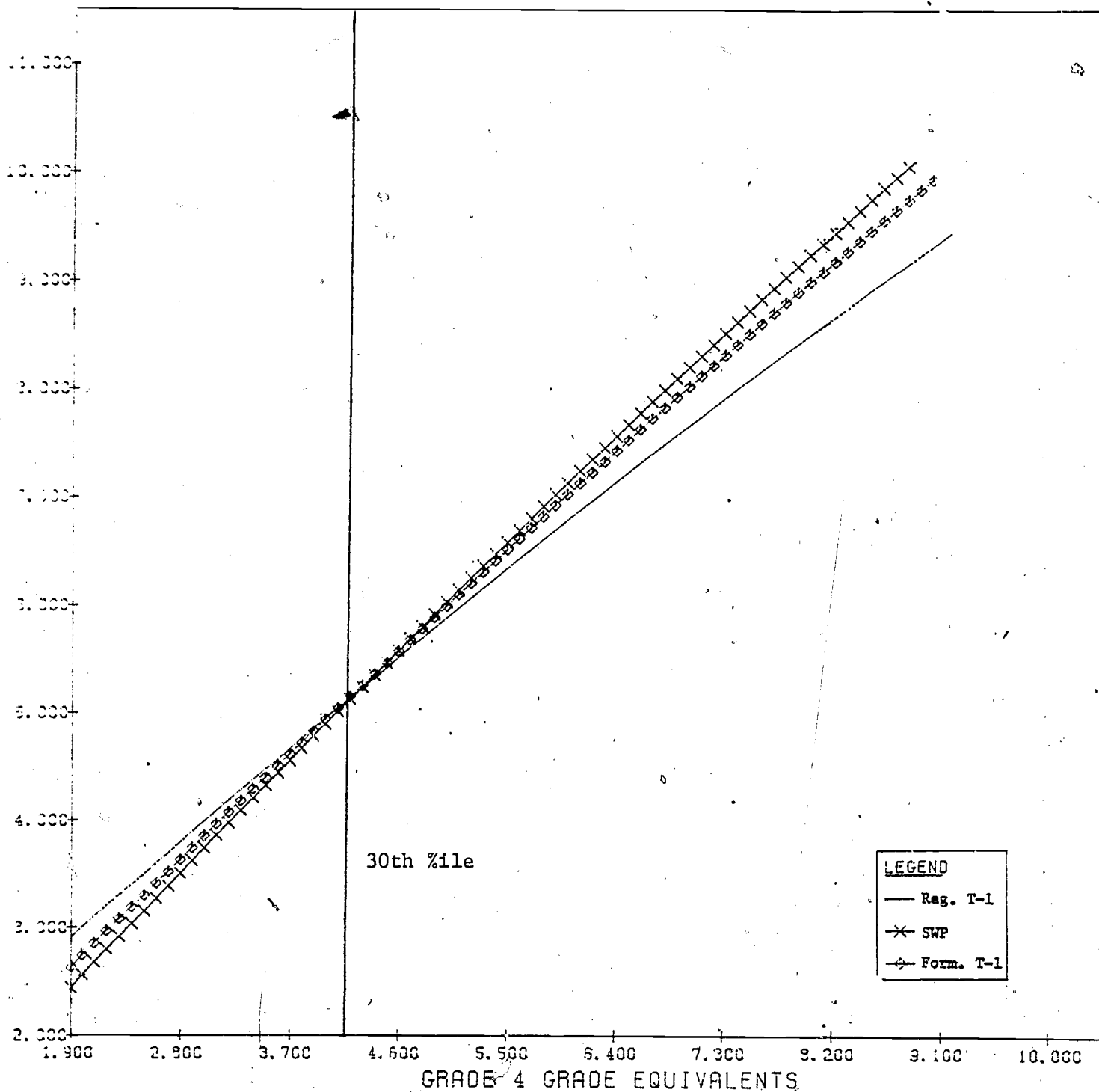
## 3 TYPES OF SCHOOLS - GRADE 3 - MODEL 1



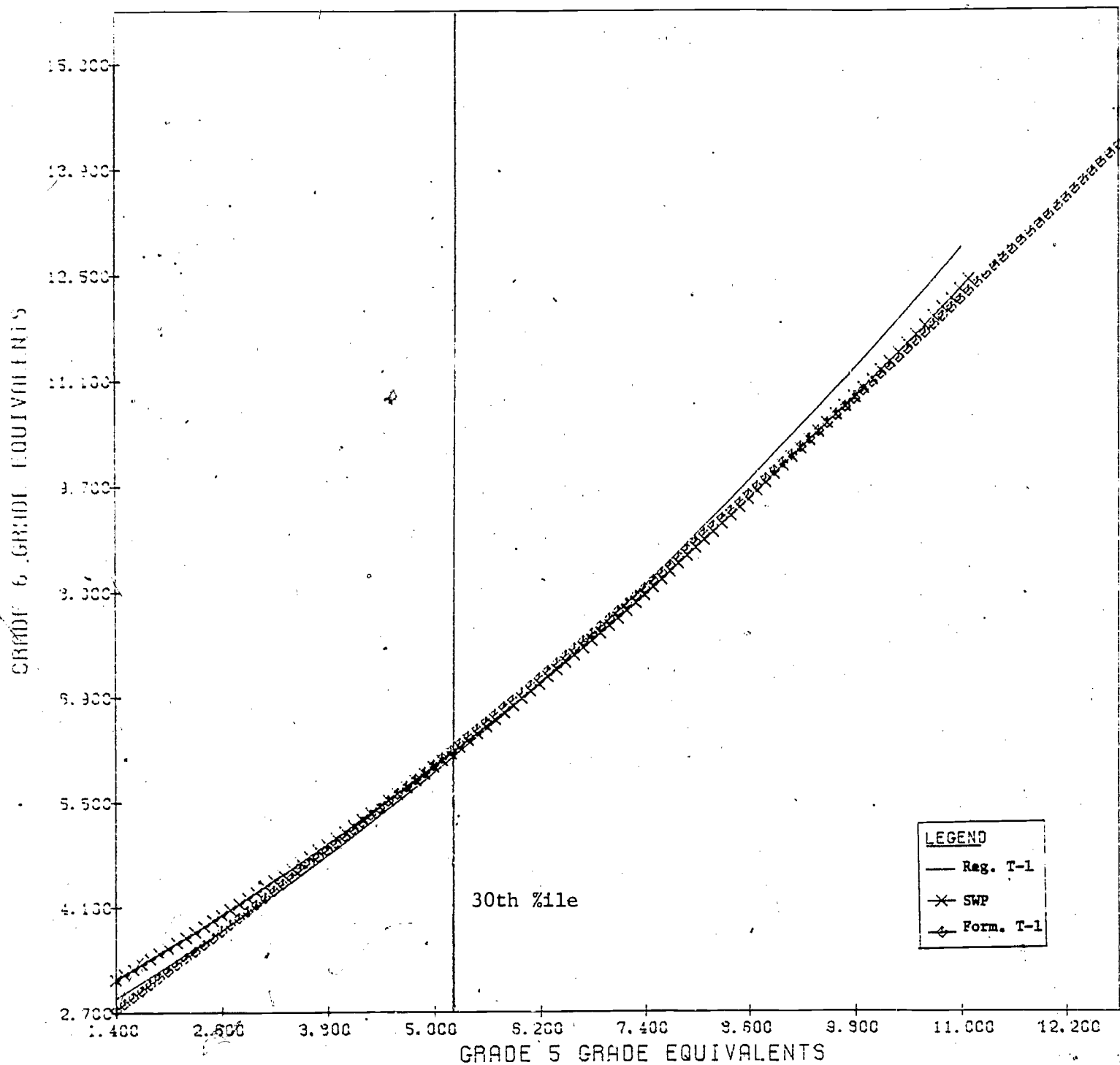
## 3 TYPES OF SCHOOLS - GRADE 4 - MODEL 2



## 3 TYPES OF SCHOOLS - GRADE 5 - MODEL 2



## 3 TYPES OF SCHOOLS - GRADE 6 - MODEL 1

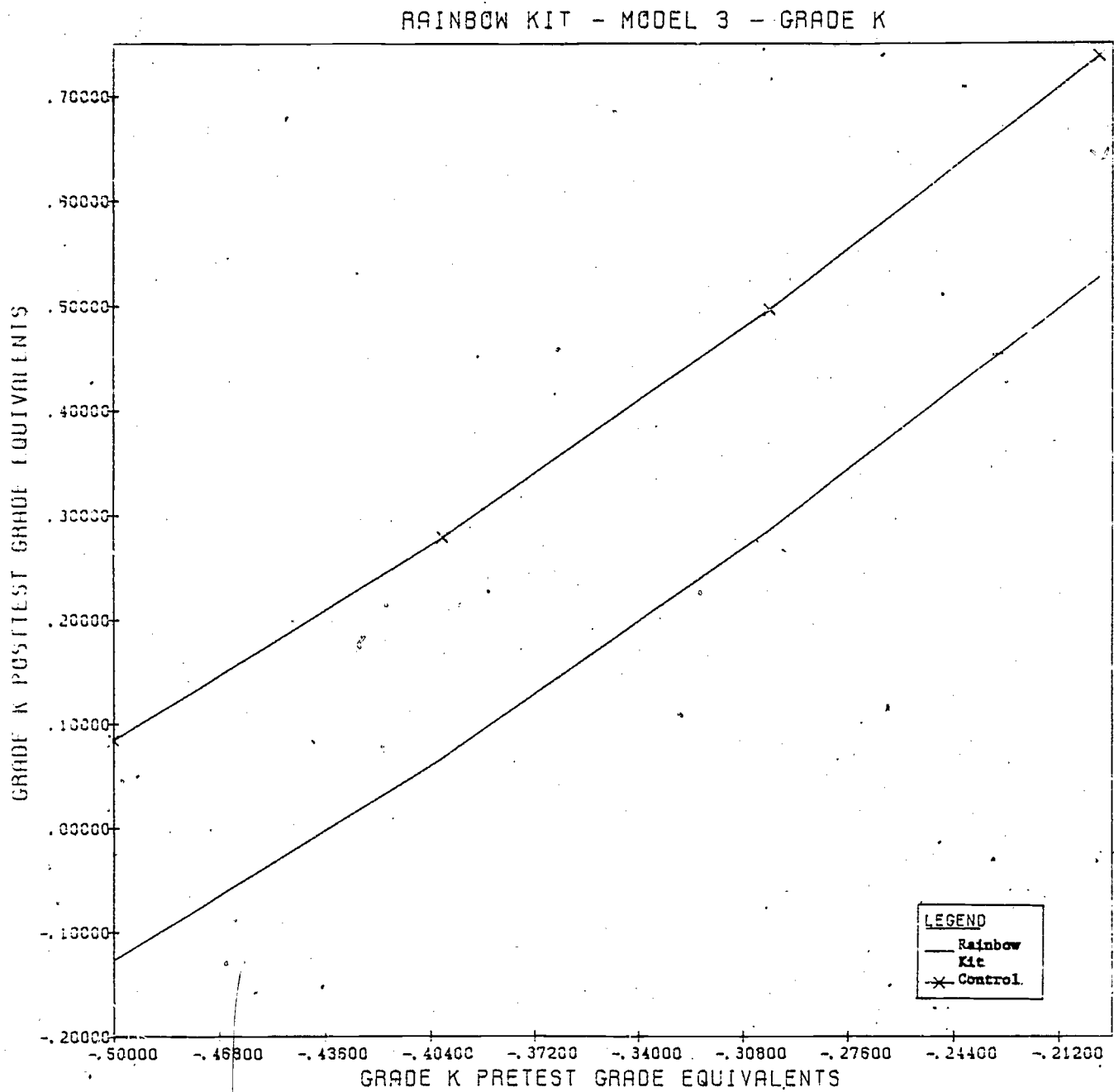


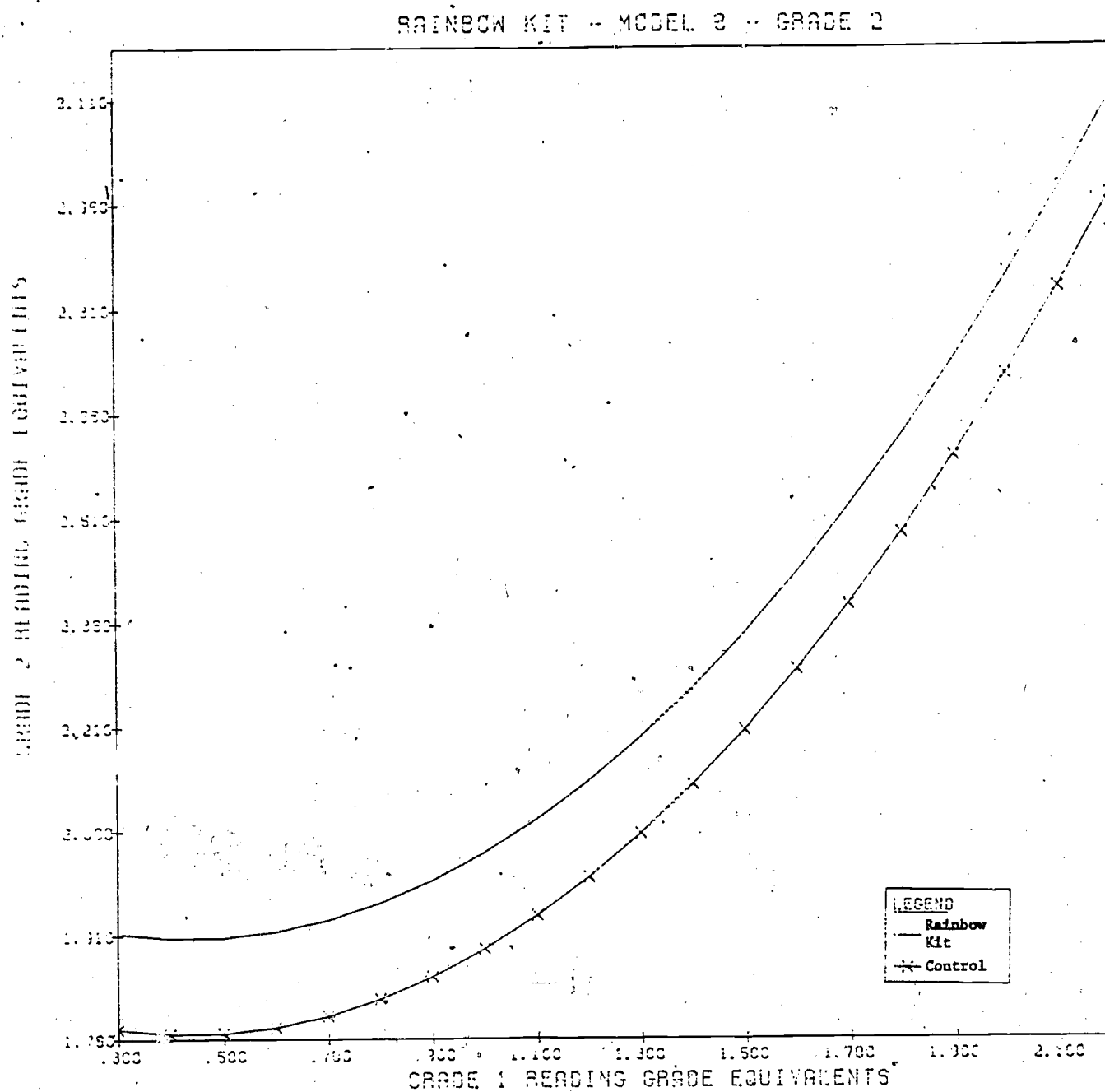
Figures B-18 through B-21

POSTTEST ACHIEVEMENT (1982) FOR STUDENTS WHO RECEIVED  
RAINBOW KITS AND A COMPARISON GROUP  
(FOR GRADE LEVELS WITH A SIGNIFICANT DIFFERENCE.)

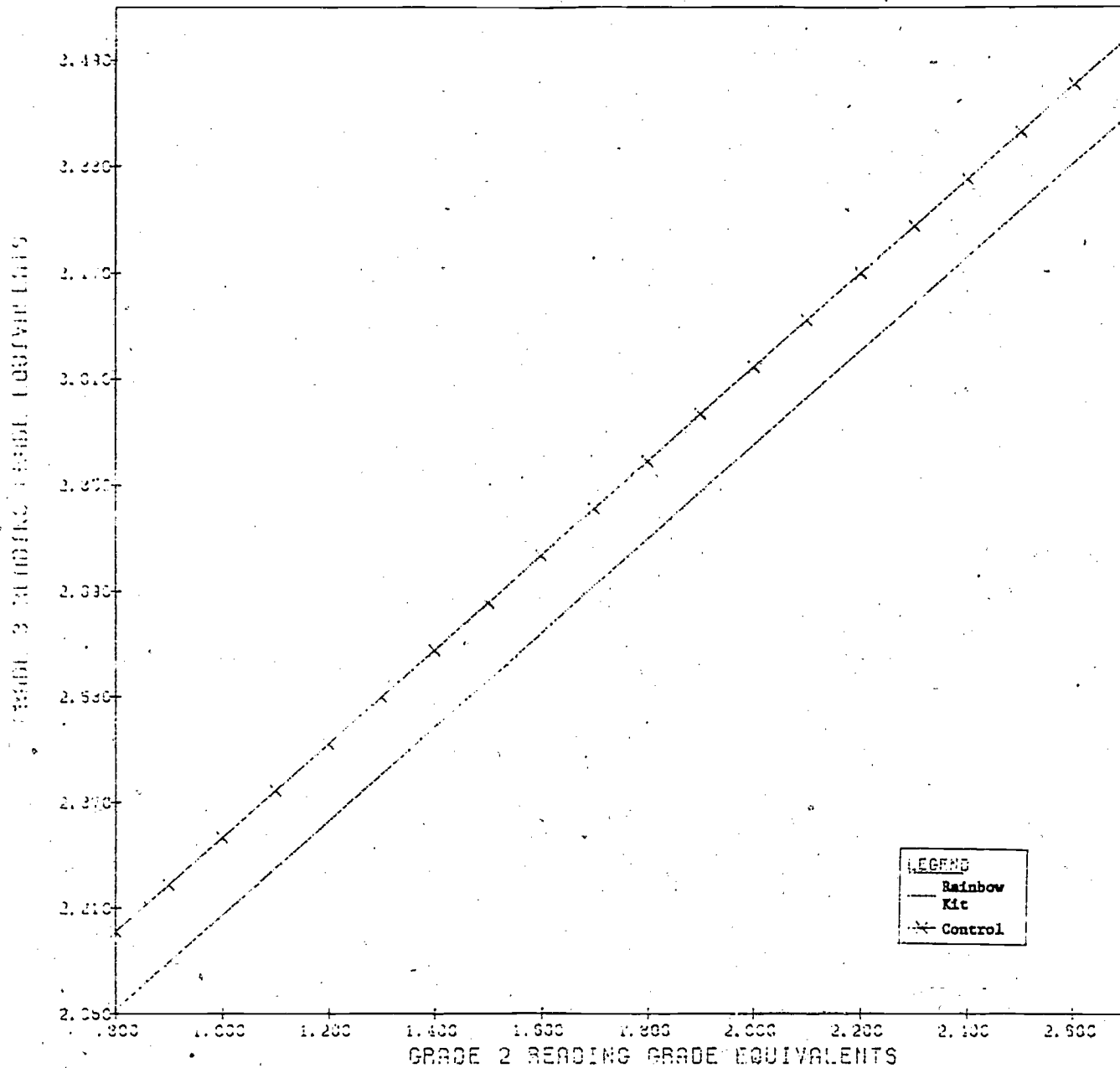
(Page 1 of 5)

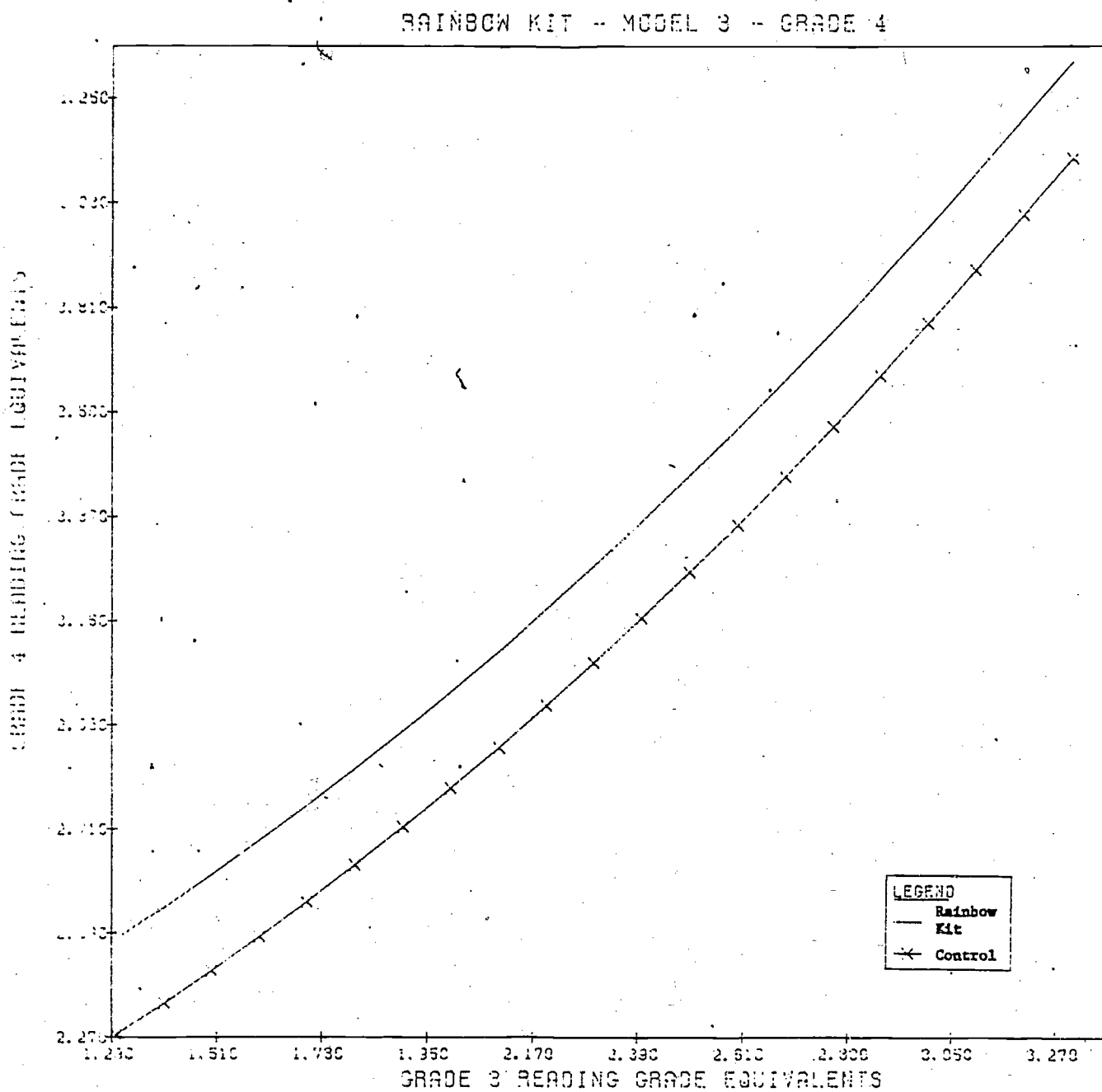






## RAINBOW KIT -- MODEL S -- GRADE 3



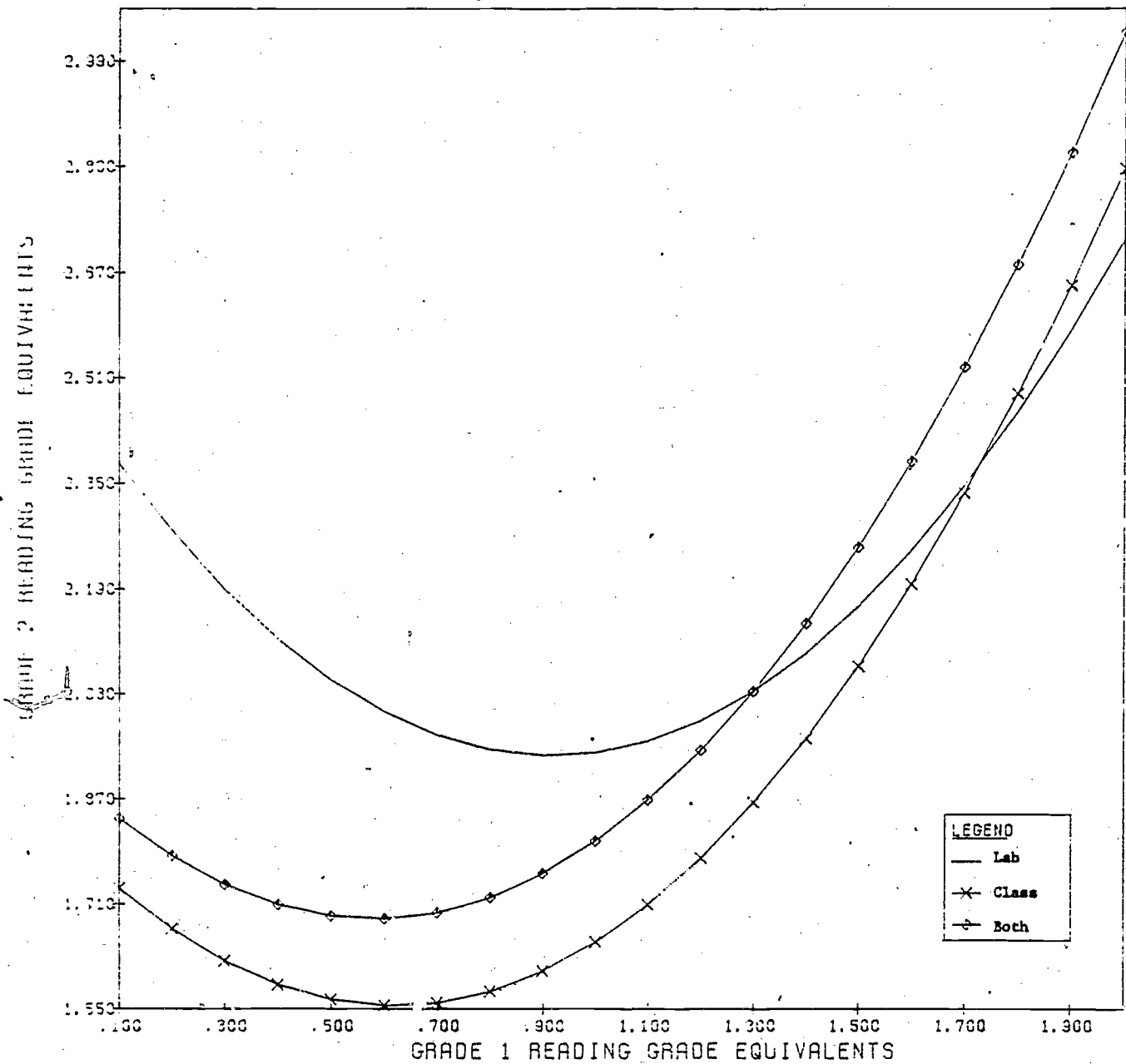


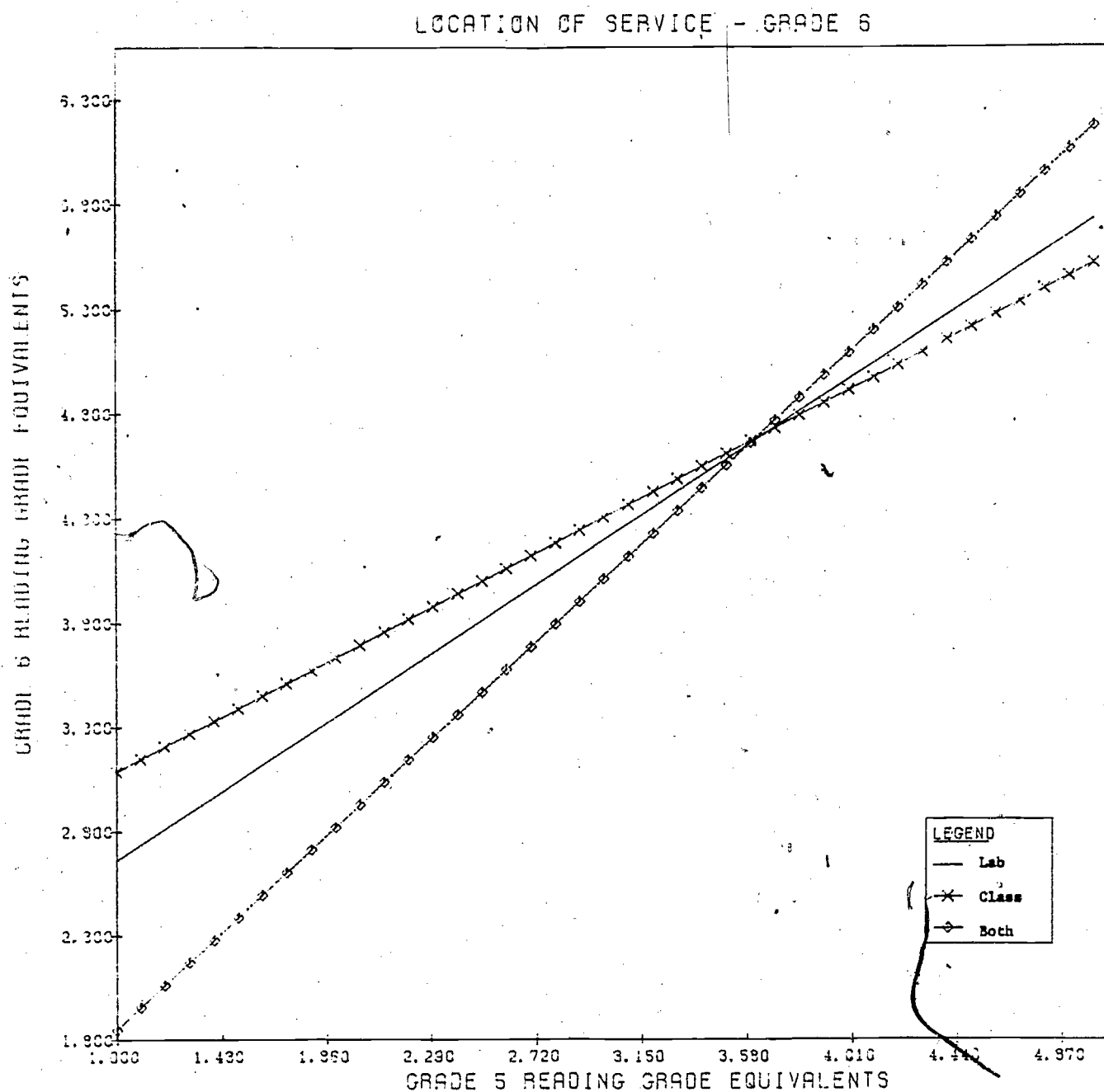
Figures B-22 through B-24

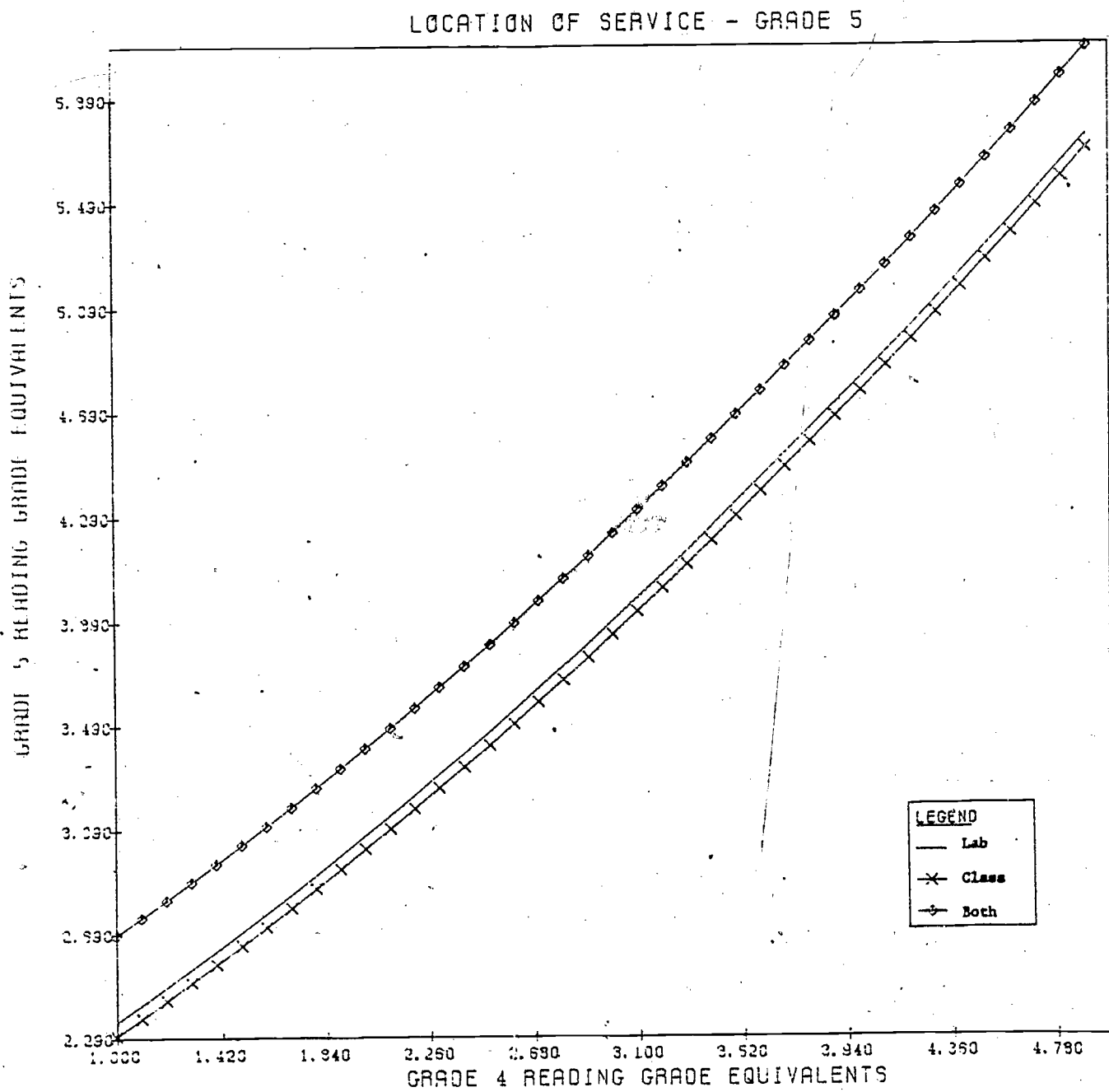
POSTTEST ACHIEVEMENT (1982) FOR STUDENTS SERVED BY TITLE I IN THREE LOCATIONS  
(CLASS, LAB, OR BOTH CLASS AND LAB)

(Page 1 of 4)

## LOCATION OF SERVICE - GRADE 2







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## Attachment B-1

MEASUREMENT OF OBJECTIVES FOR THE REGULAR TITLE I PROGRAM  
(Students who were served on both service reports)

(Page 1 of 4)

Percent	Expected Percent	Of Students Gaining
34	17	$\geq$ 10 percentile points
4	7	7-9 percentile points
10	7	4-6 percentile points
17	13	1-3 percentile points
34	56	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE K, GAIN IN READING TOTAL PERCENTILE. (Regular Title I Program)

Percent	Expected Percent	Of Students Scoring
17	18	>1.9 grade equivalent
7	8	1.7 to 1.8 grade equivalent
16	17	1.4 to 1.6 grade equivalent
22	21	1.1 to 1.3 grade equivalent
36	36	$\leq$ 1.0 grade equivalent

MEASUREMENT OF READING COMPONENT OBJECTIVE AT GRADE 1, READING TOTAL GRADE EQUIVALENT. (Regular Title I Program)

Percent	Expected Percent	Of Students Gaining
37	19	$\geq$ 10 percentile points
2	4	7-9 percentile points
4	5	4-6 percentile points
7	6	1-3 percentile points
50	66	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 2, GAIN IN READING TOTAL PERCENTILE. (Regular Title I Program)

Percent	Expected Percent	Of Students Gaining
41	31	$\geq$ 10 percentile points
9	7	7-9 percentile points
11	11	4-6 percentile points
9	13	1-3 percentile points
29	38	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 3, GAIN IN  
READING TOTAL PERCENTILE. (Regular Title I Program)

Percent	Expected Percent	Of Students Gaining
18	17	$\geq$ 10 percentile points
5	7	7-9 percentile points
6	7	4-6 percentile points
16	13	1-3 percentile points
55	56	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 4, GAIN IN  
READING TOTAL PERCENTILE. (Regular Title I Program)

Percent	Expected Percent	Of Students Gaining
21	24	$\geq$ 10 percentile points
8	7	7-9 percentile points
11	11	4-6 percentile points
12	16	1-3 percentile points
47	42	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 5, GAIN IN  
READING TOTAL PERCENTILE. (Regular Title I Program)

Percent	Expected Percent	Of Students Gaining
19	21	$\geq 10$ percentile points
9	8	7-9 percentile points
13	13	4-6 percentile points
19	12	1-3 percentile points
40	46	$\leq 0$ percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 6, GAIN IN  
READING TOTAL PERCENTILE. (Regular Title I Program)

Attachment B-2

MEASUREMENT OF OBJECTIVES FOR SCHOOLWIDE PROJECTS

(Page 1 of 6)

Percent	Expected Percent	Of Students Gaining
42	29	$\geq 10$ percentile points
5	9	7-9 percentile points
3	2	4-6 percentile points
19	6	1-3 percentile points
31	54	$\leq 0$ percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE K, GAIN IN  
READING TOTAL PERCENTILE. (Allison)

Percent	Expected Percent	Of Students Scoring
40	27	>1.9 grade equivalent
6	12	1.7 to 1.8 grade equivalent
15	16	1.4 to 1.6 grade equivalent
13	18	1.1 to 1.3 grade equivalent
25	27	$\leq 1.0$ grade equivalent

MEASUREMENT OF READING COMPONENT OBJECTIVE AT GRADE 1, READING TOTAL  
GRADE EQUIVALENT. (Allison)

Percent	Expected Percent	Of Students Gaining
8	29	$\geq 10$ percentile points
3	9	7-9 percentile points
3	2	4-6 percentile points
5	6	1-3 percentile points
80	54	$\leq 0$ percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 2, GAIN IN  
READING TOTAL PERCENTILE. (Allison)

Percent	Expected Percent	Of Students Gaining
38	38	$\geq$ 10 percentile points
8	12	7-9 percentile points
12	12	4-6 percentile points
8	9	1-3 percentile points
33	29	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 3, GAIN, IN  
READING TOTAL PERCENTILE. (Allison)

Percent	Expected Percent	Of Students Gaining
60	16	$\geq$ 10 percentile points
8	14	7-9 percentile points
7	14	4-6 percentile points
6	7	1-3 percentile points
19	48	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE K, GAIN IN  
READING TOTAL PERCENTILE. (Becker)

Percent	Expected Percent	Of Students Scoring
52	64	>1.9 grade equivalent
13	5	1.7 to 1.8 grade equivalent
9	12	1.4 to 1.6 grade equivalent
15	14	1.1 to 1.3 grade equivalent
12	5	$\leq$ 1.0 grade equivalent

MEASUREMENT OF READING COMPONENT OBJECTIVE AT GRADE 1, READING TOTAL  
GRADE EQUIVALENT. (Becker)

Percent	Expected Percent	Of Students Gaining
20	20	$\geq$ 10 percentile points
4	3	7-9 percentile points
4	9	4-6 percentile points
4	1	1-3 percentile points
69	67	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 2, GAIN IN  
READING TOTAL PERCENTILE. (Becker)



Percent	Expected Percent	Of Students Gaining
27	21	$\geq$ 10 percentile points
3	6	7-9 percentile points
8	25	4-6 percentile points
9	12	1-3 percentile points
53	36	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 3, GAIN IN  
READING TOTAL PERCENTILE. (BECKER)

Percent	Expected Percent	Of Students Gaining
8	16	$\geq$ 10 percentile points
2	14	7-9 percentile points
8	14	4-6 percentile points
11	7	1-3 percentile points
71	48	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 4, GAIN IN  
READING TOTAL PERCENTILE. (Becker)

Percent	Expected Percent	Of Students Gaining
21	46	$\geq$ 10 percentile points
7	5	7-9 percentile points
14	16	4-6 percentile points
10	3	1-3 percentile points
48	30	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 5, GAIN IN  
READING TOTAL PERCENTILE. (Becker)

Percent	Expected Percent	Of Students Gaining
24	27	$\geq$ 10 percentile points
5	5	7-9 percentile points
14	13	4-6 percentile points
14	27	1-3 percentile points
43	27	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 6, GAIN IN  
READING TOTAL PERCENTILE. (Becker)

Attachment B-3

F-TESTS COMPARING LOW-ACHIEVING STUDENTS  
IN THREE TYPES OF SCHOOLS (One-Year Gains).

(Page 1 of 29)

81.33

Attachment B-3

(Page 2 of 29)

F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

GRADE = K  
TEST = SCHOOL TYPE <30  
NUMBER OF CASES = 594

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 =	248.77187		
SUM OF SQUARES, MODEL 5 =	253.79209	DF = 3, 585	F = 3.935102871558591 p<.01

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 =	248.77187		
SUM OF SQUARES, MODEL 2 =	253.54905	DF = 2, 585	F = 5.616893702652154 p<.01

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 =	253.54905		
SUM OF SQUARES, MODEL 3 =	254.80345	DF = 2, 587	F = 1.452051979685986 NS.

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 =	248.77187		
SUM OF SQUARES, MODEL 3 =	254.80345	DF = 4, 585	F = 3.545893573095707 P<.01

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 =	254.80345		
SUM OF SQUARES, MODEL 4 =	256.43039	DF = 2, 589	F = 1.880405583205405 NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 =	253.79209		
SUM OF SQUARES, MODEL 6 =	254.90877	DF = 2, 588	F = 1.293593980805306 NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 =	254.90877		
SUM OF SQUARES, MODEL 7 =	256.54676	DF = 2, 590	F = 1.895607789406385 NS

B-50

81.33

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-3  
(Page 3 of 29)

GRADE = K

TEST = SCHOOL TYPE 1 VS. 2 &lt;30

NUMBER OF CASES = 536

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 217.49572

DF = 2, 530

F = 1.710422853378448

SUM OF SQUARES, MODEL 5 = 218.89953

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 217.49572

DF = 1, 530

F = 1.581307439061339

SUM OF SQUARES, MODEL 2 = 218.14464

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 218.14464

DF = 1, 531

F = 1.582207108083207D-03

SUM OF SQUARES, MODEL 3 = 218.14529

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 217.49572

DF = 2, 530

F = .7914456891381595

SUM OF SQUARES, MODEL 3 = 218.14529

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 218.14529

DF = 1, 532

F = 3.976490163963675

SUM OF SQUARES, MODEL 4 = 219.77584

P &lt; .05

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 218.89953

DF = 1, 532

F = 1.239472738936757D-03

SUM OF SQUARES, MODEL 6 = 218.90004

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 218.90004

DF = 1, 533

F = 3.978823576277101

SUM OF SQUARES, MODEL 7 = 220.53412

B-51

P &lt; .05

81.33

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-  
(Page 4 of 29)

GRADE = K  
TEST = SCHOOL TYPE 1 VS. 3 <30  
NUMBER OF CASES = 504

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 211.24544

DF = 2, 498

F = 5.726216007313575

SUM OF SQUARES, MODEL 5 = 216.10342

P&lt;.01

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 211.24544

DF = 1, 498

F = 10.29490179764352

SUM OF SQUARES, MODEL 2 = 215.61241

P&lt;.001

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 215.61241

DF = 1, 499

F = 3.045043974973447

SUM OF SQUARES, MODEL 3 = 216.92814

P&lt;.05

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 211.24544

DF = 2, 498

F = 6.69833299123522

SUM OF SQUARES, MODEL 3 = 216.92814

P&lt;.01

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 216.92814

DF = 1, 500

F = .3066222759297192

SUM OF SQUARES, MODEL 4 = 217.06117

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 216.10342

DF = 1, 500

F = 2.549265532216011

SUM OF SQUARES, MODEL 6 = 217.20523

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 217.20523

DF = 1, 501

F = .3561812024507841

SUM OF SQUARES, MODEL 7 = 217.35965

NS

B-52

81.33

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-3  
(Page 5 of 29)GRADE = K  
TEST = SCHOOL TYPE 2 VS. 3 <30  
NUMBER OF CASES = 148

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 68.80258

DF = 2, 142

F = 3.899332699442375  
P<.05

SUM OF SQUARES, MODEL 5 = 72.58123

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 68.80258

DF = 1, 142

F = 4.807448499751028  
P<.05

SUM OF SQUARES, MODEL 2 = 71.13191

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 71.13191

DF = 1, 143

F = .3102572389803573  
NS

SUM OF SQUARES, MODEL 3 = 71.28624

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 68.80258

DF = 2, 142

F = 2.562983248593295  
NS

SUM OF SQUARES, MODEL 3 = 71.28624

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 71.28624

DF = 1, 144

F = .1658036670190478  
NS

SUM OF SQUARES, MODEL 4 = 71.36832

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 72.58123

DF = 1, 144

F = 1.510327670115266  
NS

SUM OF SQUARES, MODEL 6 = 73.34249

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 73.34249

DF = 1, 145

F = .2909786673454885  
NS

SUM OF SQUARES, MODEL 7 = 73.48967

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81.33

F VALUES FOR SPSS REGRESSION RESULTS---THREE GROUP CASE

Attachment -3  
(Page 6 of 29)

GRADE = 1  
TEST = SCHOOL TYPE <30  
NUMBER OF CASES = 410

MODEL 1 VS MODEL 5---CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 97.04313

DF = 3, 401

F = 2.162454158269625

SUM OF SQUARES, MODEL 5 = 98.61309

NS

MODEL 1 VS MODEL 2---COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 97.04313

DF = 2, 401

F = 2.820111789469277

SUM OF SQUARES, MODEL 2 = 98.40808

NS

MODEL 2 VS MODEL 3---PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 98.40808

DF = 2, 403

F = 1.023490906437768

SUM OF SQUARES, MODEL 3 = 98.90793

NS

MODEL 1 VS MODEL 3---PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 97.04313

DF = 4, 401

F = 1.926423848859781

SUM OF SQUARES, MODEL 3 = 98.90793

NS

MODEL 3 VS MODEL 4---EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 98.90793

DF = 2, 405

F = 2.779002654286665

SUM OF SQUARES, MODEL 4 = 100.26529

NS

MODEL 5 VS MODEL 6---COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 98.61309

DF = 2, 404

F = 1.018264410941788

SUM OF SQUARES, MODEL 6 = 99.11019

NS

MODEL 6 VS MODEL 7---COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 99.11019

DF = 2, 406

F = 2.687169200260844

SUM OF SQUARES, MODEL 7 = 100.42214

NS

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## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-3  
(Page 7 of 29)

81.33

GRADE = 1  
TEST = SCHOOL TYPE 1 VS. 2 <30  
NUMBER OF CASES = 328

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 72.82008

DF = 2, 322

F = 3.400518785477852

SUM OF SQUARES, MODEL 5 = 74.35813

P&lt;.05

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 72.82008

DF = 1, 322

F = 5.056084255881064

SUM OF SQUARES, MODEL 2 = 73.96351

P&lt;.05

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 73.96351

DF = 1, 323

F = 1.330106426804243

SUM OF SQUARES, MODEL 3 = 74.26809

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 72.82008

DF = 2, 322

F = 3.201446771275172

SUM OF SQUARES, MODEL 3 = 74.26809

P&lt;.05

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 74.26809

DF = 1, 324

F = 1.371069593953474

SUM OF SQUARES, MODEL 4 = 74.58237

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 74.35813

DF = 1, 324

F = 1.699997027897287

SUM OF SQUARES, MODEL 6 = 74.74828

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 74.74828

DF = 1, 325

F = 1.350813690963857

SUM OF SQUARES, MODEL 7 = 75.05896

NS

B-55

110

# F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-3  
(Page 8 of 29)

GRADE = 1  
TEST = SCHOOL TYPE 1 VS. 3 <30  
NUMBER OF CASES = 366

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 88.37952	DF = 2, 360	F = .1312227086094149
SUM OF SQUARES, MODEL 5 = 88.44395		NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 88.37952	DF = 1, 360	F = .2489626556016555
SUM OF SQUARES, MODEL 2 = 88.44064		NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 88.44064	DF = 1, 361	F = .1240061130267826
SUM OF SQUARES, MODEL 3 = 88.47102		NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 88.37952	DF = 2, 360	F = .1863553909322013
SUM OF SQUARES, MODEL 3 = 88.47102		NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 88.47102	DF = 1, 362	F = 4.714333801057109
SUM OF SQUARES, MODEL 4 = 89.62318		P<.05

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 88.44395	DF = 1, 362	F = .1132529698187332
SUM OF SQUARES, MODEL 6 = 88.47162		NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 88.47162	DF = 1, 363	F = 4.729745538738868
SUM OF SQUARES, MODEL 7 = 89.62437		P<.05

B-56

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-3  
(Page 9 of 29)

GRADE = 1

TEST = SCHOOL TYPE 2 VS. 3 &lt;30

NUMBER OF CASES = 126

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 32.88666

DF = 2, 120

F = 2.804979283393328

SUM OF SQUARES, MODEL 5 = 34.4241

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 32.88666

DF = 1, 120

F = 4.643110610806936

SUM OF SQUARES, MODEL 2 = 34.15913

P&lt;.05

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 34.15913

DF = 1, 121

F = 1.81809255680692

SUM OF SQUARES, MODEL 3 = 34.67239

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 32.88666

DF = 2, 120

F = 3.257971469282682

SUM OF SQUARES, MODEL 3 = 34.67239

P&lt;.05

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 34.67239

DF = 1, 122

F = .2640746715181736

SUM OF SQUARES, MODEL 4 = 34.74744

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 34.4241

DF = 1, 122

F = 1.700531313817938

SUM OF SQUARES, MODEL 6 = 34.90393

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 34.90393

DF = 1, 123

F = .2195073735249837

SUM OF SQUARES, MODEL 7 = 34.96622

NS

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F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

81.33

Attachment B-3  
(Page 10 of 29)

GRADE = 2  
TEST = SCHOOL TYPE <30  
NUMBER OF CASES = 314

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 111.1907

DF = 3, 305

F = 1.62903372314411

SUM OF SQUARES, MODEL 5 = 112.97234

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 111.1907

DF = 2, 305

F = 1.426830886036328

SUM OF SQUARES, MODEL 2 = 112.23103

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 112.23103

DF = 2, 307

F = .7475516797805421

SUM OF SQUARES, MODEL 3 = 112.7776

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 111.1907

DF = 4, 305

F = 1.088230625403024

SUM OF SQUARES, MODEL 3 = 112.7776

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 112.7776

DF = 2, 309

F = .103130054195156

SUM OF SQUARES, MODEL 4 = 112.85288

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 112.97234

DF = 2, 308

F = .9278658829232019

SUM OF SQUARES, MODEL 6 = 113.65301

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 113.65301

DF = 2, 310

F = .06623977666759279

SUM OF SQUARES, MODEL 7 = 113.70158

NS

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F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-3  
(Page 11 of 29)

GRADE = 2

TEST = SCHOOL TYPE 1 VS. 2 <30

NUMBER OF CASES = 246

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 83.21135

DF = 2, 240

F = 2.353943302205771

SUM OF SQUARES, MODEL 5 = 84.84364

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 83.21135

DF = 1, 240

F = .2489371942649679

SUM OF SQUARES, MODEL 2 = 83.29766

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 83.29766

DF = 1, 241

F = .9562442690466944

SUM OF SQUARES, MODEL 3 = 83.62817

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 83.21135

DF = 2, 240

F = .6011006911917684

SUM OF SQUARES, MODEL 3 = 83.62817

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 83.62817

DF = 1, 242

F = .1658414861882047

SUM OF SQUARES, MODEL 4 = 83.68548

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 84.84364

DF = 1, 242

F = 1.0481653073819

SUM OF SQUARES, MODEL 6 = 85.21112

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 85.21112

DF = 1, 243

F = .05058987606313391

SUM OF SQUARES, MODEL 7 = 85.22886

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NS

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-3  
(Page 12 of 29)

GRADE = 2  
TEST = SCHOOL TYPE 1 VS. 3 <30  
NUMBER OF CASES = 281

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 100.9749

DF = 2, 275

F = 1.953148752808866

SUM OF SQUARES, MODEL 5 = 102.40922

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 100.9749

DF = 1, 275

F = 2.356273687817469

SUM OF SQUARES, MODEL 2 = 101.84008

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 101.84008

DF = 1, 276

F = .3723178536387646

SUM OF SQUARES, MODEL 3 = 101.97746

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 100.9749

DF = 2, 275

F = 1.365210562228832

SUM OF SQUARES, MODEL 3 = 101.97746

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 101.97746

DF = 1, 277

F = .06388705896381291

SUM OF SQUARES, MODEL 4 = 102.00098

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 102.40922

DF = 1, 277

F = .5848934304938583

SUM OF SQUARES, MODEL 6 = 102.62546

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 102.62546

DF = 1, 278

F = .06428170943155468

SUM OF SQUARES, MODEL 7 = 102.64919

NS

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## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-3  
(Page 13 of 29)

GRADE = 2

TEST = SCHOOL TYPE 2 VS. 3 &lt;30

NUMBER OF CASES = 101

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 38.19515

DF = 2, 95

F = .617677898895541

SUM OF SQUARES, MODEL 5 = 38.69183

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 38.19515

DF = 1, 95

F = 1.187551299052366

SUM OF SQUARES, MODEL 2 = 38.67261

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 38.67261

DF = 1, 96

F = 1.683647418676941

SUM OF SQUARES, MODEL 3 = 39.35085

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 38.19515

DF = 2, 95

F = 1.43724399563819

SUM OF SQUARES, MODEL 3 = 39.35085

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 39.35085

DF = 1, 97

F = .1243840984375161

SUM OF SQUARES, MODEL 4 = 39.40131

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 38.69183

DF = 1, 97

F = 1.652832910720427

SUM OF SQUARES, MODEL 6 = 39.35112

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 39.35112

DF = 1, 98

F = .1286540256033397

SUM OF SQUARES, MODEL 7 = 39.40278

NS

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F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

81.33

Attachment B-3  
(Page 14 of 29)

GRADE = 3  
TEST = SCHOOL TYPE <30  
NUMBER OF CASES = 369

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 115.41843

DF = 3, 360

F = .2766213333520511

SUM OF SQUARES, MODEL 5 = 115.68449

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 115.41843

DF = 2, 360

F = .4069939263599471

SUM OF SQUARES, MODEL 2 = 115.6794

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 115.6794

DF = 2, 362

F = .6304834741535667

SUM OF SQUARES, MODEL 3 = 116.08235

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 115.41843

DF = 4, 360

F = .5177058811144841

SUM OF SQUARES, MODEL 3 = 116.08235

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 116.08235

DF = 2, 364

F = .9464184693021758

SUM OF SQUARES, MODEL 4 = 116.68599

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 115.68449

DF = 2, 363

F = .6784648486586171

SUM OF SQUARES, MODEL 6 = 116.11693

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 116.11693

DF = 2, 365

F = .9740872842573527

SUM OF SQUARES, MODEL 7 = 116.7367

NS

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117



81.33

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE  
Attachment B-3  
(Page 15 of 29)

GRADE = 3  
TEST = SCHOOL TYPE 1 VS. 2 <30  
NUMBER OF CASES = 306

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 94.37439  
SUM OF SQUARES, MODEL 5 = 94.59913  
DF = 2, 300 F = .3572049578280728  
NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 94.37439  
SUM OF SQUARES, MODEL 2 = 94.57001  
DF = 1, 300 F = .6218424299219365  
NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 94.57001  
SUM OF SQUARES, MODEL 3 = 94.91281  
DF = 1, 301 F = 1.091073163680544  
NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 94.37439  
SUM OF SQUARES, MODEL 3 = 94.91281  
DF = 2, 300 F = .8557724187674282  
NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 94.91281  
SUM OF SQUARES, MODEL 4 = 95.39087  
DF = 1, 302 F = 1.521123650221706  
NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 94.59913  
SUM OF SQUARES, MODEL 6 = 94.98777  
DF = 1, 302 F = 1.240701473681636  
NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 94.98777  
SUM OF SQUARES, MODEL 7 = 95.48801  
DF = 1, 303 F = 1.595707742165117  
NS

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81.33

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE  
Attachment B-3  
(Page 16 of 29)

GRADE = 3  
TEST = SCHOOL TYPE 1 VS. 3 <30  
NUMBER OF CASES = 304

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 96.71436

DF = 2, 298

F = .08618223808749481

SUM OF SQUARES, MODEL 5 = 96.7703

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 96.71436

DF = 1, 298

F = .04307571285173135

SUM OF SQUARES, MODEL 2 = 96.72834

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 96.72834

DF = 1, 299

F = .4218157780853044

SUM OF SQUARES, MODEL 3 = 96.8648

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 96.71436

DF = 2, 298

F = .2317707525542166

SUM OF SQUARES, MODEL 3 = 96.8648

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 96.8648

DF = 1, 300

F = .08145373758063606

SUM OF SQUARES, MODEL 4 = 96.8911

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 96.7703

DF = 1, 300

F = .3637066331302045

SUM OF SQUARES, MODEL 6 = 96.88762

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 96.88762

DF = 1, 301

F = .08291761114578001

SUM OF SQUARES, MODEL 7 = 96.91431

NS

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119

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-3  
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81.33

GRADE = 3  
TEST = SCHOOL 2 VS. 3 <30  
NUMBER OF CASES = 128

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 34.74811	DF = 2, 122	F = 9.218856507591351
SUM OF SQUARES, MODEL 5 = 39.99955		P < .001

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 34.74811	DF = 1, 122	F = 18.23899141564822
SUM OF SQUARES, MODEL 2 = 39.94295		P < .001

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 39.94295	DF = 1, 123	F = .1035907463019135
SUM OF SQUARES, MODEL 3 = 39.97659		NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 34.74811	DF = 2, 122	F = 9.178550430512624
SUM OF SQUARES, MODEL 3 = 39.97659		P < .001

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 39.97659	DF = 1, 124	F = 1.75764366095257
SUM OF SQUARES, MODEL 4 = 40.54324		NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 39.99955	DF = 1, 124	F = .1089352255212849
SUM OF SQUARES, MODEL 6 = 40.03469		NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 40.03469	DF = 1, 125	F = 1.888580878233349
SUM OF SQUARES, MODEL 7 = 40.63956		NS

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81.33

F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

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GRADE = 4  
TEST = SCHOOL TYPE <30  
NUMBER OF CASES = 455

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 164.82332

DF = 3, 446

F = 2.084827155121822

SUM OF SQUARES, MODEL 5 = 167.13472

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 164.82332

DF = 2, 446

F = .5537681197053984

SUM OF SQUARES, MODEL 2 = 165.23262

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 165.23262

DF = 2, 448

F = 2.374107485555817

SUM OF SQUARES, MODEL 3 = 166.98387

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 164.82332

DF = 4, 446

F = 1.461573065025025

SUM OF SQUARES, MODEL 3 = 166.98387

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 166.98387

DF = 2, 450

F = .919207046764455

SUM OF SQUARES, MODEL 4 = 167.66606

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 167.13472

DF = 2, 449

F = 2.471525694960325

SUM OF SQUARES, MODEL 6 = 168.97471

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 168.97471

DF = 2, 451

F = 1.010070915345856

SUM OF SQUARES, MODEL 7 = 169.73159

NS

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121

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33  
GRADE = 4  
TEST = SCHOOL TYPE 1 VS.2 <30  
NUMBER OF CASES = 236

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(Page 19 of 29)

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 85.24054  
SUM OF SQUARES, MODEL 5 = 86.85419

DF = 2, 230 F = 2.177012839195997  
NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 85.24054  
SUM OF SQUARES, MODEL 2 = 85.59813

DF = 1, 230 F = .9648660132842944  
NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 85.59813  
SUM OF SQUARES, MODEL 3 = 87.32526

DF = 1, 231 F = .4660931611473285  
P<.05

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 85.24054  
SUM OF SQUARES, MODEL 3 = 87.32526

DF = 2, 230 F = 2.812544359761213  
NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 87.32526  
SUM OF SQUARES, MODEL 4 = 87.86429

DF = 1, 232 F = 1.432059406407718  
NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 86.85419  
SUM OF SQUARES, MODEL 6 = 88.54411

DF = 1, 232 F = 4.514018724945799  
P<.05

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 88.54411  
SUM OF SQUARES, MODEL 7 = 89.17825

DF = 1, 233 F = 1.668712012577687  
NS

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## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-3  
(Page 20 of 29)

GRADE = 4

TEST = SCHOOL TYPE 1 VS. 3 &lt;30

NUMBER OF CASES = 424

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 158.41551

DF = 2, 418

F = 2.166566329269147

SUM OF SQUARES, MODEL 5 = 160.0577

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 158.41551

DF = 1, 418

F = .04754812202415334

SUM OF SQUARES, MODEL 2 = 158.43353

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 158.43353

DF = 1, 419

F = .04633413141777467

SUM OF SQUARES, MODEL 3 = 158.45105

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 158.41551

DF = 2, 418

F = .04688846439341837

SUM OF SQUARES, MODEL 3 = 158.45105

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 158.45105

DF = 1, 420

F = .8271122217239858

SUM OF SQUARES, MODEL 4 = 158.76309

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 160.0577

DF = 1, 420

F = .0107848607096085

SUM OF SQUARES, MODEL 6 = 160.06181

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 160.06181

DF = 1, 421

F = .792042336644817

SUM OF SQUARES, MODEL 7 = 160.36294

NS

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123

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-3  
(Page 21 of 29)

GRADE = 4

TEST = SCHOOL TYPE 2 VS. 3 &lt;30

NUMBER OF CASES = 250

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 85.99059

DE = 2, 244

F = 1.939359643886615

SUM OF SQUARES, MODEL 5 = 87.35753

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 85.99059

DF = 1, 244

F = 1.154671923986099

SUM OF SQUARES, MODEL 2 = 86.39752

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 86.39752

DF = 1, 245

F = 4.447926861789549

SUM OF SQUARES, MODEL 3 = 87.96605

P&lt;.05

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 85.99059

DF = 2, 244

F = 2.802703412082645

SUM OF SQUARES, MODEL 3 = 87.96605

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 87.96605

DF = 1, 246

F = .6438179274845266

SUM OF SQUARES, MODEL 4 = 88.19627

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 87.35753

DF = 1, 246

F = 5.039707052156803

SUM OF SQUARES, MODEL 6 = 89.14719

P&lt;.05

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 89.14719

DF = 1, 247

F = .8331213804944469

SUM OF SQUARES, MODEL 7 = 89.44788

NS

B-69

## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

81.33

Attachment B-3  
(Page 22 of 29)GRADE = 5  
TEST = SCHOOL TYPE <30  
NUMBER OF CASES = 497

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 197.57875

DF = 3, 488

F = 9.48847140697064

SUM OF SQUARES, MODEL 5 = 209.10367

P &lt; .001

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 197.57875

DF = 2, 488

F = .8606000392248711

SUM OF SQUARES, MODEL 2 = 198.27562

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 198.27562

DF = 2, 490

F = 1.241523037476819

SUM OF SQUARES, MODEL 3 = 199.28037

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 197.57875

DF = 4, 488

F = 1.05070833781467

SUM OF SQUARES, MODEL 3 = 199.28037

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 199.28037

DF = 2, 492

F = 1.091604456575422

SUM OF SQUARES, MODEL 4 = 200.16466

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 209.10367

DF = 2, 491

F = 1.362260404133509

SUM OF SQUARES, MODEL 6 = 210.26397

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 210.26397

DF = 2, 493

F = 1.859207499982045

SUM OF SQUARES, MODEL 7 = 211.84987

B-70

NS



81.33

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE  
Attachment B-3  
(Page 23 of 29)

GRADE = 5  
TEST = SCHOOL TYPE 1 VS. 2 <30  
NUMBER OF CASES = 276

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 106.88844  
SUM OF SQUARES, MODEL 5 = 117.44211  
DF = 2, 270 F = 13.3292753641086  
P<.001

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 106.88844  
SUM OF SQUARES, MODEL 2 = 107.31964  
DF = 1, 270 F = 1.089210395436589  
NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 107.31964  
SUM OF SQUARES, MODEL 3 = 107.3892  
DF = 1, 271 F = .1756506078477365  
NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 106.88844  
SUM OF SQUARES, MODEL 3 = 107.3892  
DF = 2, 270 F = .6324594128233155  
NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 107.3892  
SUM OF SQUARES, MODEL 4 = 108.17125  
DF = 1, 272 F = 1.980809988341476  
NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 117.44211  
SUM OF SQUARES, MODEL 6 = 117.51838  
DF = 1, 272 F = .176643965269355  
NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 117.51838  
SUM OF SQUARES, MODEL 7 = 118.79059  
DF = 1, 273 F = 2.955395828295117  
NS

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81.33

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE  
Attachment B-3  
(Page 24 of 29)

GRADE = 5  
TEST = SCHOOL TYPE 1 VS. 3 <30  
NUMBER OF CASES = 472

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 189.83862	DF = 2, 466	F = 12.76025478904135
SUM OF SQUARES, MODEL 5 = 200.23514		P<.001

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 139.83862	DF = 1, 466	F = .5584971066477459
SUM OF SQUARES, MODEL 2 = 190.06614		NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 190.06614	DF = 1, 467	F = 2.448513501668428
SUM OF SQUARES, MODEL 3 = 191.06267		NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 189.83862	DF = 2, 466	F = 1.502347888959587
SUM OF SQUARES, MODEL 3 = 191.06267		NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 191.06267	DF = 1, 468	F = .5948508936884356
SUM OF SQUARES, MODEL 4 = 191.30552		NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 200.23514	DF = 1, 468	F = 2.684357401003644
SUM OF SQUARES, MODEL 6 = 201.38365		NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 201.38365	DF = 1, 469	F = 1.494144782855993
SUM OF SQUARES, MODEL 7 = 202.02522		NS

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81.33

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE  
Attachment B-3  
(Page 25 of 29)

GRADE = 5

TEST = SCHOOL TYPE 2 VS. 3 &lt;30

NUMBER OF CASES = 246

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 98.43044

DF = 2, 240

F = 2.559744729374372

SUM OF SQUARES, MODEL 5 = 100.53008

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 98.43044

DF = 1, 240

F = 1.468106817362596

SUM OF SQUARES, MODEL 2 = 99.03255

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 99.03255

DF = 1, 241

F = .00064055757425392

SUM OF SQUARES, MODEL 3 = 99.04473

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 98.43044

DF = 2, 240

F = .7489024736656674

SUM OF SQUARES, MODEL 3 = 99.04473

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 99.04473

DF = 1, 242

F = 1.22401585627019

SUM OF SQUARES, MODEL 4 = 99.54569

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 100.53008

DF = 1, 242

F = .03683076746780206

SUM OF SQUARES, MODEL 6 = 100.54538

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 100.54538

DF = 1, 243

F = 1.46964355796358

SUM OF SQUARES, MODEL 7 = 101.15347

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NS

## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

81.33

Attachment B-3  
(Page 26 of 29)GRADE  
TEST = OL TYPE <30  
NUMBER OF CASES = 419

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 171.487

DF = 3, 410

F = 1.869542492045077

SUM OF SQUARES, MODEL 5 = 173.83287

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 171.487

DF = 2, 410

F = .7647737146256019

SUM OF SQUARES, MODEL 2 = 172.12675

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 172.12675

DF = 2, 412

F = .6405712069739241

SUM OF SQUARES, MODEL 3 = 172.66199

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 171.487

DF = 4, 410

F = .7023067346212818

SUM OF SQUARES, MODEL 3 = 172.66199

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 172.66199

DF = 2, 414

F = .9903539858425183

SUM OF SQUARES, MODEL 4 = 173.48806

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 173.83287

DF = 2, 413

F = .6170426513696704

SUM OF SQUARES, MODEL 6 = 174.3523

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 174.3523

DF = 2, 415

F = 1.036522317170462

SUM OF SQUARES, MODEL 7 = 175.22324

NS

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129

81.33

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE  
Attachment B-3  
(Page 27 of 29)

GRADE = 6  
TEST = SCHOOL TYPE 1 VS. 2 <30  
NUMBER OF CASES = 202

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 82.9999  
SUM OF SQUARES, MODEL 5 = 84.93895  
DF = 2, 196 F = 2.289483481305399  
NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 82.9999  
SUM OF SQUARES, MODEL 2 = 83.44749  
DF = 1, 196 F = 1.056960791519026  
NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 83.44749  
SUM OF SQUARES, MODEL 3 = 83.44942  
DF = 1, 197 F = 4.556278445282821D-03  
NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 82.9999  
SUM OF SQUARES, MODEL 3 = 83.44942  
DF = 2, 196 F = .5307591936857752  
NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 83.44942  
SUM OF SQUARES, MODEL 4 = 83.71862  
DF = 1, 198 F = .6387294243626808  
NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 84.93895  
SUM OF SQUARES, MODEL 6 = 84.94044  
DF = 1, 198 F = 3.473318189119768D-03  
NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 84.94044  
SUM OF SQUARES, MODEL 7 = 85.25698  
DF = 1, 199 F = .7415956404275745  
NS

B-75

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-3  
(Page 28 of 29)

GRADE = 6

TEST = SCHOOL TYPE 1 VS. 3 &lt;30

NUMBER OF CASES = 403

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 165.9052

DF = 2, 397

F = 1.658063158960659

SUM OF SQUARES, MODEL 5 = 167.291

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 165.9052

DF = 1, 397

F = .2065340326885498

SUM OF SQUARES, MODEL 2 = 165.99151

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 165.99151

DF = 1, 398

F = 1.244077362751866

SUM OF SQUARES, MODEL 3 = 166.51037

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 165.9052

DF = 2, 397

F = .7240655808256777

SUM OF SQUARES, MODEL 3 = 166.51037

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 166.51037

DF = 1, 399

F = 1.662779861698701

SUM OF SQUARES, MODEL 4 = 167.20428

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 167.291

DF = 1, 399

F = 1.203289417840776

SUM OF SQUARES, MODEL 6 = 167.79551

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 167.79551

DF = 1, 400

F = 1.700212359675169

SUM OF SQUARES, MODEL 7 = 168.50873

NS

B-76

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33  
GRADE = 6  
TEST = SCHOOL TYPE 2 VS. 3 <30  
NUMBER OF CASES = 233

Attachment B-3  
(Page 29 of 29)

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 94.06891  
SUM OF SQUARES, MODEL 5 = 95.4358

DF = 2, 227

F = 1.649237936317108

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 94.06891  
SUM OF SQUARES, MODEL 2 = 94.68308

DF = 1, 227

F = 1.482068730253172

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 94.68308  
SUM OF SQUARES, MODEL 3 = 94.74754

DF = 1, 228

F = .1552218199914883

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 94.06891  
SUM OF SQUARES, MODEL 3 = 94.74754

DF = 2, 227

F = .8188093707049418

NS

MODEL3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 94.74754  
SUM OF SQUARES, MODEL 4 = 94.79447

DF = 1, 229

F = .1134274304113851

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 95.4358  
SUM OF SQUARES, MODEL 6 = 95.49994

DF = 1, 229

F = .1539051383233548

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 95.49994  
SUM OF SQUARES, MODEL 7 = 95.55806

DF = 1, 230

F = .1399749570523348

NS

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132

Attachment B-4

F-TESTS COMPARING HIGH-ACHIEVING STUDENTS  
IN THREE TYPES OF SCHOOLS (One Year Gains)

(Page 1 of 29)



# F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

81.33

Attachment B-4  
(Page 2 of 29)

GRADE = K  
TEST = SCHOOL TYPE >30  
NUMBER OF CASES = 288

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 189.70716

DF = 3, 279

F = .2585371052942884  
NS

SUM OF SQUARES, MODEL 5 = 190.23454

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 189.70716

DF = 2, 279

F = .3471705548699377  
NS

SUM OF SQUARES, MODEL 2 = 190.17928

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 190.17928

DF = 2, 281

F = 1.124432745775461  
NS

SUM OF SQUARES, MODEL 3 = 191.7013

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 189.70716

DF = 4, 279

F = .7331893271714157  
NS

SUM OF SQUARES, MODEL 3 = 191.7013

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 191.7013

DF = 2, 283

F = 7.823154955130716  
p < .001

SUM OF SQUARES, MODEL 4 = 202.29995

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 190.23454

DF = 2, 282

F = 1.089253297534714  
NS

SUM OF SQUARES, MODEL 6 = 191.70414

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 191.70414

DF = 2, 284

F = 8.17503085744523  
p < .001

SUM OF SQUARES, MODEL 7 = 202.74067

B-79

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-4  
(Page 3 of 29)GRADE = K  
TEST = SCHOOL TYPE 1 VS. 2 >30  
NUMBER OF CASES = 208

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 137.00839

DF = 2, 202

F = .3078247251865388

SUM OF SQUARES, MODEL 5 = 137.42596

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 137.00839

DF = 1, 202

F = .181715148977371

SUM OF SQUARES, MODEL 2 = 137.13164

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 137.13164

DF = 1, 203

F = .3596460306315947

SUM OF SQUARES, MODEL 3 = 137.37459

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 137.00839

DF = 2, 202

F = .2699557304483344

SUM OF SQUARES, MODEL 3 = 137.37459

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 137.37459

DF = 1, 204

F = .01602305055104653

SUM OF SQUARES, MODEL 4 = 137.38538

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 137.42596

DF = 1, 204

F = .2366042049115005

SUM OF SQUARES, MODEL 6 = 137.58535

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 137.58535

DF = 1, 205

F = .01211357168477797

SUM OF SQUARES, MODEL 7 = 137.59348

NS

B-30

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33  
GRADE = K  
TEST = SCHOOL TYPE 1 VS. 3 >30  
NUMBER OF CASES = 270

Attachment B-4  
(Page 4 of 29)

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 182.18853	DF = 2, 264	F = .3170373019640702
SUM OF SQUARES, MODEL 5 = 182.62611		NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 182.18853	DF = 1, 264	F = .5377563560120908
SUM OF SQUARES, MODEL 2 = 182.55964		NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 182.55964	DF = 1, 265	F = 1.837845977347455
SUM OF SQUARES, MODEL 3 = 183.82574		NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 182.18853	DF = 2, 264	F = 1.186198274940796
SUM OF SQUARES, MODEL 3 = 183.82574		NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 183.82574	DF = 1, 266	F = 14.95917492294605
SUM OF SQUARES, MODEL 4 = 194.16364		p < .001

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 182.62611	DF = 1, 266	F = 1.751649421870728
SUM OF SQUARES, MODEL 6 = 183.82873		NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 183.82873	DF = 1, 267	F = 15.07457294624186
SUM OF SQUARES, MODEL 7 = 194.20753		p < .001

B-81

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-3  
(Page 5 of 29)

GRADE = K  
TEST = SCHOOL TYPE 2 VS. 3 >30  
NUMBER OF CASES = 98

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 60.2174	DF = 2, 92	F = .152481840796846
SUM OF SQUARES, MODEL 5 = 60.41701		NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 60.2174	DF = 1, 92	F = .1010027002162154
SUM OF SQUARES, MODEL 2 = 60.28351		NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 60.28351	DF = 1, 93	F = .4916309617671546
SUM OF SQUARES, MODEL 3 = 60.60219		NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 60.2174	DF = 2, 92	F = .2939406218136271
SUM OF SQUARES, MODEL 3 = 60.60219		NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 60.60219	DF = 1, 94	F = 5.276528785510889
SUM OF SQUARES, MODEL 4 = 64.00399		p < .05

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 60.41701	DF = 1, 94	F = .8030847604010854
SUM OF SQUARES, MODEL 6 = 60.93318		NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 60.93318	DF = 1, 95	F = 6.029168344734347
SUM OF SQUARES, MODEL 7 = 64.8003		p < .05

B-82

## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

81.33

Attachment B-4  
(Page 6 of 29)GRADE = 1  
TEST = SCHOOL TYPE >30  
NUMBER OF CASES = 858

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 409.48134

DF = 3, 849

F = 3.799304725338643

SUM OF SQUARES, MODEL 5 = 414.97867

p &lt; .01

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 409.48134

DF = 2, 849

F = .6253444662460007  
NS

SUM OF SQUARES, MODEL 2 = 410.08456

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 410.08456

DF = 2, 851

F = .1037072085815591  
NS

SUM OF SQUARES, MODEL 3 = 410.18451

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 409.48134

DF = 4, 849

F = .3644801799759593  
NS

SUM OF SQUARES, MODEL 3 = 410.18451

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 410.18451

DF = 2, 853

F = 6.096518491154157  
p < .01

SUM OF SQUARES, MODEL 4 = 416.04781

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 414.97867

DF = 2, 852

F = .3156873580926456  
NS

SUM OF SQUARES, MODEL 6 = 415.28619

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 415.28619

DF = 2, 854

F = 5.646345114437815  
p < .01

SUM OF SQUARES, MODEL 7 = 420.77764

B-83

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-4  
(Page 7 of 29)

81.33

GRADE = 1  
TEST = SCHOOL TYPE 1 VS. 2 >30  
NUMBER OF CASES = 568

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 261.34632

DF = 2, 562

F = 4.539436943286582

SUM OF SQUARES, MODEL 5 = 265.56826

p &lt; .05

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 261.34632

DF = 1, 562

F = 1.227643764029259

SUM OF SQUARES, MODEL 2 = 261.91721

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 261.91721

DF = 1, 563

F = .1695982482403599

SUM OF SQUARES, MODEL 3 = 261.99611

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 261.34632

DF = 2, 562

F = .6986552938644739

SUM OF SQUARES, MODEL 3 = 261.99611

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 261.99611

DF = 1, 564

F = .07439744048107988

SUM OF SQUARES, MODEL 4 = 262.03067

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 265.56826

DF = 1, 564

F = .5842642490484626

SUM OF SQUARES, MODEL 6 = 265.84337

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 265.84337

DF = 1, 565

F = .0927911047771983

SUM OF SQUARES, MODEL 7 = 265.88703

NS

B-84

133

81.33

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-4  
(Page 8 of 29)

GRADE = 1

TEST = SCHOOL TYPE 1 VS. 3. >30

NUMBER OF CASES = 750

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 362.63203

DF = 2, 744

F = 5.635589443105724

SUM OF SQUARES, MODEL 5 = 368.1257

p < .01

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 362.63203

DF = 1, 744

F = .2606231997763637

SUM OF SQUARES, MODEL 2 = 362.75906

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 362.75906

DF = 1, 745

F = .08781641456453472

SUM OF SQUARES, MODEL 3 = 362.80182

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 362.63203

DF = 2, 744

F = .1741762303787661

SUM OF SQUARES, MODEL 3 = 362.80182

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 362.80182

DF = 1, 746

F = 10.611981825229

SUM OF SQUARES, MODEL 4 = 367.96274

p < .01

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 368.1257

DF = 1, 746

F = 3.019457755877884D-03

SUM OF SQUARES, MODEL 6 = 368.12719

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 368.12719

DF = 1, 747

F = 9.56921345581673

SUM OF SQUARES, MODEL 7 = 372.84297

p < .05

B-85

140

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-4  
(Page 9 of 29)

GRADE = 1

TEST = SCHOOL TYPE 2 VS. 3 &gt;30

NUMBER OF CASES = 398

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 194.98432

DF = 2, 392 F = 1.285712615250298

SUM OF SQUARES, MODEL 5 = 196.26337

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 194.98432

DF = 1, 392 F = .4993878482126228

SUM OF SQUARES, MODEL 2 = 195.23272

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 195.23272

DF = 1, 393 F = .1339840985670826

SUM OF SQUARES, MODEL 3 = 195.29928

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 194.98432

DF = 2, 392 F = .3166006374256173

SUM OF SQUARES, MODEL 3 = 195.29928

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 195.29928

DF = 1, 394 F = 5.841167361190483

SUM OF SQUARES, MODEL 4 = 198.19465

p &lt; .05

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 196.26337

DF = 1, 394 F = .5373693522127916

SUM OF SQUARES, MODEL 6 = 196.53105

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 196.53105

DF = 1, 395 F = 5.585764183318616

SUM OF SQUARES, MODEL 7 = 199.31023

p &lt; .05

B-86



## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

81.33

Attachment B-4  
(Page 10 of 29)GRADE = 2  
TEST = SCHOOL TYPE >30  
NUMBER OF CASES = 720

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 228.44329

DF = 3, 711

F = 2.176563207437606

SUM OF SQUARES, MODEL 5 = 230.54127

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 228.44329

DF = 2, 711

F = 2.091154592459242

SUM OF SQUARES, MODEL 2 = 229.78706

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 229.78706

DF = 2, 713

F = .1043185808635259

SUM OF SQUARES, MODEL 3 = 229.8543

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 228.44329

DF = 4, 711

F = 1.097896232802461

SUM OF SQUARES, MODEL 3 = 229.8543

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 229.8543

DF = 2, 715

F = 7.534235709316717

SUM OF SQUARES, MODEL 4 = 234.69843

p &lt; .001

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 230.54127

DF = 2, 714

F = .02925172573222846

SUM OF SQUARES, MODEL 6 = 230.56016

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 230.56016

DF = 2, 716

F = 7.487856097948579

SUM OF SQUARES, MODEL 7 = 235.38251

p &lt; .001

B-87

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-4  
(Page 11 of 29)

GRADE = 2

TEST = SCHOOL TYPE 1 VS. 2 &gt;30

NUMBER OF CASES = 488

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 153.35646

DF = 2, 482

F = 3.288761034259663

SUM OF SQUARES, MODEL 5 = 155.44921

p &lt; .05

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 153.35646

DF = 1, 482

F = 3.126817742141423

SUM OF SQUARES, MODEL 2 = 154.35131

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 154.35131

DF = 1, 483

F = .02656712145818001

SUM OF SQUARES, MODEL 3 = 154.3598

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 153.35646

DF = 2, 482

F = 1.576750923958471

SUM OF SQUARES, MODEL 3 = 154.3598

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 154.3598

DF = 1, 484

F = 15.07795527073759

SUM OF SQUARES, MODEL 4 = 159.16854

p &lt; .001

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 155.44921

DF = 1, 484

F = .01597254820400088

SUM OF SQUARES, MODEL 6 = 155.45434

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 155.45434

DF = 1, 485

F = 14.79734403040791

SUM OF SQUARES, MODEL 7 = 160.19725

p &lt; .001

B-88

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-4  
(Page 12 of 29)

GRADE = 2

TEST = SCHOOL TYPE 1 VS. 3 &gt;30

NUMBER OF CASES = 644

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 207.61863

DF = 2, 638

F = .6062914488935858

SUM OF SQUARES, MODEL 5 = 208.01323

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 207.61863

DF = 1, 638

F = .3685993882148224

SUM OF SQUARES, MODEL 2 = 207.73858

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 207.73858

DF = 1, 639

F = .09181804362003609

SUM OF SQUARES, MODEL 3 = 207.76843

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 207.61863

DF = 2, 638

F = .2301633528744601

SUM OF SQUARES, MODEL 3 = 207.76843

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 207.76843

DF = 1, 640

F = 1.89986900319744

SUM OF SQUARES, MODEL 4 = 208.3852

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 208.01323

DF = 1, 640

F = .02889047009173342

SUM OF SQUARES, MODEL 6 = 208.02262

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 208.02262

DF = 1, 641

F = 1.931973455579012

SUM OF SQUARES, MODEL 7 = 208.6496

NS

B-89

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-4  
(Page 13 of 29)GRADE = 2  
TEST = SCHOOL TYPE 2 VS. 3 >30-  
NUMBER OF CASES = 308

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 95.9115

DF = 2, 302

F = 2.689980972041935

SUM OF SQUARES, MODEL 5 = 97.62011

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 95.9115

DF = 1, 302

F = 4.229823118187072

SUM OF SQUARES, MODEL 2 = 97.25484

p&lt;.05

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 97.25484

DF = 1, 303

F = .1346841966939678

SUM OF SQUARES, MODEL 3 = 97.29807

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 95.9115

DF = 2, 302

F = 2.182971489341735

SUM OF SQUARES, MODEL 3 = 97.29807

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 97.29807

DF = 1, 304

F = 7.28617782449334

SUM OF SQUARES, MODEL 4 = 99.63008

p&lt;.01

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 97.62011

DF = 1, 304

F = .04826874298748853

SUM OF SQUARES, MODEL 6 = 97.63561

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 97.63561

DF = 1, 305

F = 7.275220588062076

SUM OF SQUARES, MODEL 7 = 99.96453

p&lt;.01

B-90

## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

81.33

Attachment B-4  
(Page 14 of 29)GRADE = 3  
TEST = SCHOOL TYPE >30  
NUMBER OF CASES = 592

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 207.64628

DF = 3, 583

F = 2.27301542154604

SUM OF SQUARES, MODEL 5 = 210.07501

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 207.64628

DF = 2, 583

F = 2.641670440712928

SUM OF SQUARES, MODEL 2 = 209.52804

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 209.52804

DF = 2, 585

F = 2.003112566699912

SUM OF SQUARES, MODEL 3 = 210.96294

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 207.64628

DF = 4, 583

F = 2.328012786937483

SUM OF SQUARES, MODEL 3 = 210.96294

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 210.96294

DF = 2, 587

F = 1.1364062569473

SUM OF SQUARES, MODEL 4 = 211.77977

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 210.07501

DF = 2, 586

F = 1.987880947857621

SUM OF SQUARES, MODEL 6 = 211.50028

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 211.50028

DF = 2, 588

F = 1.112639094378508

SUM OF SQUARES, MODEL 7 = 212.3007

NS

B-91

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-4  
(Page 15 of 29)

81.33

GRADE = 3

TEST = SCHOOL TYPE 1 VS. 2 >30

NUMBER OF CASES = 433

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 151.56972

DF = 2, 427

F = .3884898645982856

SUM OF SQUARES, MODEL 5 = 151.84552

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 151.56972

DF = 1, 427

F = .7710354680341122

SUM OF SQUARES, MODEL 2 = 151.84341

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 151.84341

DF = 1, 428

F = 2.925098955562188

SUM OF SQUARES, MODEL 3 = 152.88116

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 151.56972

DF = 2, 427

F = 1.847284800684465

SUM OF SQUARES, MODEL 3 = 152.88116

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 152.88116

DF = 1, 429

F = 2.307681469711504

SUM OF SQUARES, MODEL 4 = 153.70354

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 151.84552

DF = 1, 429

F = 2.939238181014505

SUM OF SQUARES, MODEL 6 = 152.88587

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 152.88587

DF = 1, 430

F = 2.308826839262501

SUM OF SQUARES, MODEL 7 = 153.70677

NS

B-92

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-4  
(Page 16 of 29)

81.33  
GRADE = 3  
TEST = SCHOOL TYPE 1 VS. 3 >30  
NUMBER OF CASES = 512

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 184.89219	DF = 2, 506	F = 3.042080630880083
SUM OF SQUARES, MODEL 5 = 187.11534		p < .05

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 184.89219	DF = 1, 506	F = 3.446911413618929
SUM OF SQUARES, MODEL 2 = 186.15169		NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 186.15169	DF = 1, 507	F = 2.047564166621318
SUM OF SQUARES, MODEL 3 = 186.90348		NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 184.89219	DF = 2, 506	F = 2.752178823778331
SUM OF SQUARES, MODEL 3 = 186.90348		NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 186.90348	DF = 1, 508	F = 5.979556934915208D-04
SUM OF SQUARES, MODEL 4 = 186.9037		NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 187.11534	DF = 1, 508	F = 1.867391738165352
SUM OF SQUARES, MODEL 6 = 187.80317		NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 187.80317	DF = 1, 509	F = 2.249536043509176D-03
SUM OF SQUARES, MODEL 7 = 187.804		NS

B-93

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33  
GRADE = 3  
TEST = SCHOOL TYPE 2 VS. 3 >30  
NUMBER OF CASES = 239

Attachment B-4  
(Page 17 of 29)

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 78.83065  
SUM OF SQUARES, MODEL 5 = 81.18916  
DF = 2, 233 F = 3.485527710351239  
NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 78.83065  
SUM OF SQUARES, MODEL 2 = 80.42907  
DF = 1, 233 F = 4.724455018447771  
p < .05

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 80.42907  
SUM OF SQUARES, MODEL 3 = 80.54038000000001  
DF = 1, 234 F = .3238448486349616  
NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 78.83065  
SUM OF SQUARES, MODEL 3 = 80.54038000000001  
DF = 2, 233 F = 2.526727167668924  
NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 80.54038000000001  
SUM OF SQUARES, MODEL 4 = 80.98053  
DF = 1, 235 F = 1.284265731053166  
NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 81.18916  
SUM OF SQUARES, MODEL 6 = 81.34447  
DF = 1, 235 F = .4495409239361461  
NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 81.34447  
SUM OF SQUARES, MODEL 7 = 81.75475  
DF = 1, 236 F = 1.190321603914814  
NS

B-94



F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

Attachment B-4  
(Page 18 of 29)

81.33

GRADE = 4  
TEST = SCHOOL TYPE >30  
NUMBER OF CASES = 597

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 227.35725  
SUM OF SQUARES, MODEL 5 = 228.37963

DF = 3, 588

F = .8813727294819042

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 227.35725  
SUM OF SQUARES, MODEL 2 = 227.49663

DF = 2, 588

F = .1802349386263146

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 227.49663  
SUM OF SQUARES, MODEL 3 = 227.60476

DF = 2, 590

F = .140214604497666

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 227.35725  
SUM OF SQUARES, MODEL 3 = 227.60476

DF = 4, 588

F = .1600299528605301

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 227.60476  
SUM OF SQUARES, MODEL 4 = 228.14796

DF = 2, 592

F = .7064316229590308

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 228.37963  
SUM OF SQUARES, MODEL 6 = 228.58285

DF = 2, 591

F = .2629459991681371

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 228.58285  
SUM OF SQUARES, MODEL 7 = 229.15832

DF = 2, 593

F = .7464551911921642

NS

B-95

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-4  
(Page 19 of 29)

GRADE = 4  
TEST = SCHOOL TYPE 1 VS. 2 >30  
NUMBER OF CASES = 331

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 133.97748

DF = 2, 325

F = .5081283063392478

SUM OF SQUARES, MODEL 5 = 134.39642

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 133.97748

DF = 1, 325

F = .2701834666542478

SUM OF SQUARES, MODEL 2 = 134.08886

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 134.08886

DF = 1, 326

F = .2813655064261185

SUM OF SQUARES, MODEL 3 = 134.20459

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 133.97748

DF = 2, 325

F = .2754595399167124

SUM OF SQUARES, MODEL 3 = 134.20459

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 134.20459

DF = 1, 327

F = .3422417966479237

SUM OF SQUARES, MODEL 4 = 134.34505

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 134.39642

DF = 1, 327

F = .4942357095523776

SUM OF SQUARES, MODEL 6 = 134.59955

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 134.59955

DF = 1, 328

F = .3088230235539383

SUM OF SQUARES, MODEL 7 = 134.72628

NS

B-96

151

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-4  
(Page 20 of 29)

GRADE = 4  
TEST = SCHOOL TYPE 1 VS. 3 >30  
NUMBER OF CASES = 567

MODEL 1 VS MODEL 5--CURVILINEAR VS. LINEAR

SUM OF SQUARES, MODEL 1 = 223.15463  
SUM OF SQUARES, MODEL 5 = 224.11771

DF = 2, 561 F = 1.21056838480116  
NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 223.15463  
SUM OF SQUARES, MODEL 2 = 223.17148

DF = 1, 561 F = .04236008905574974  
NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 223.17148  
SUM OF SQUARES, MODEL 3 = 223.18504

DF = 1, 562 F = .03414737402824507  
NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 223.15463  
SUM OF SQUARES, MODEL 3 = 223.18504

DF = 2, 561 F = .03822463822507268  
NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 223.18504  
SUM OF SQUARES, MODEL 4 = 223.67557

DF = 1, 563 F = 1.237396511880912  
NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 224.11771  
SUM OF SQUARES, MODEL 6 = 224.12344

DF = 1, 563 F = .01439417705990251  
NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 224.12344  
SUM OF SQUARES, MODEL 7 = 224.65777

DF = 1, 564 F = 1.34462562238024  
NS

B-97

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-4  
(Page 21 fo 29)

GRADE = 4

TEST = SCHOOL TYPE 2 VS. 3 &gt;30

NUMBER OF CASES = 296

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 97.58239

DF = 2, 290

F = .9847811679955797

SUM OF SQUARES, MODEL 5 = 98.24513

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 97.58239

DF = 1, 290

F = .3901441643312853

SUM OF SQUARES, MODEL 2 = 97.71367

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 97.71367

DF = 1, 291

F = .215345611315182

SUM OF SQUARES, MODEL 3 = 97.78598

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 97.58239

DF = 2, 290

F = .3025192352841508

SUM OF SQUARES, MODEL 3 = 97.78598

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 97.78598

DF = 1, 292

F = -4.419447450439409D-03

SUM OF SQUARES, MODEL 4 = 97.7845

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 98.24513

DF = 1, 292

F = .5401004609592257

SUM OF SQUARES, MODEL 6 = 98.42685

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 98.42685

DF = 1, 293

F = 2.08378100082003D-03

SUM OF SQUARES, MODEL 7 = 98.42755

NS

B-98

## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

81.33

Attachment B-4  
(Page 22 of 29)GRADE = 5  
TEST = SCHOOL TYPE >30  
NUMBER OF CASES = 509

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 292.37924

SUM OF SQUARES, MODEL 5 = 314.58701

DF = 3, 500

F = 12.65922642113715

p &lt; .001

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 292.37924

SUM OF SQUARES, MODEL 2 = 301.96668

DF = 2, 500

F = 8.197777653433945

p &lt; .001

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 301.96668

SUM OF SQUARES, MODEL 3 = 307.51341

DF = 2, 502

F = 4.610539248899903

p &lt; .01

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 292.37924

SUM OF SQUARES, MODEL 3 = 307.51341

DF = 4, 500

F = 6.470265296537465

p &lt; .001

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 307.51341

SUM OF SQUARES, MODEL 4 = 308.84546

DF = 2, 504

F = 1.091583615816951

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 314.58701

SUM OF SQUARES, MODEL 6 = 319.85075

DF = 2, 503

F = 4.208154081123692

p &lt; .05

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 319.85075

SUM OF SQUARES, MODEL 7 = 321.35037

DF = 2, 505

F = 1.183846059451172

NS

B-99

154

# F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-4  
(Page 23 of 29)

GRADE = 5  
TEST = SCHOOL TYPE 1 VS. 2 >30  
NUMBER OF CASES = 268

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 203.00879

DF = 2, 262

F = 14.18208477573804

SUM OF SQUARES, MODEL 5 = 224.98656

p<.001

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 203.00879

DF = 1, 262

F = 1.159745053403847

SUM OF SQUARES, MODEL 2 = 203.90741

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 203.90741

DF = 1, 263

F = 2.282947932103741D-03

SUM OF SQUARES, MODEL 3 = 203.90918

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 203.00879

DF = 2, 262

F = .5810146939942857

SUM OF SQUARES, MODEL 3 = 203.90918

NS

## MODEL3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 203.90918

DF = 1, 264

F = .53606806716598

SUM OF SQUARES, MODEL 4 = 204.32323

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 224.98656

DF = 1, 264

F = .6023783820686957

SUM OF SQUARES, MODEL 6 = 225.49992

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 225.49992

DF = 1, 265

F = .5980893474374489

SUM OF SQUARES, MODEL 7 = 226.00886

NS

B-100

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-4  
(Page 24 of 29)GRADE = 5  
TEST = SCHOOL TYPE 1 VS. 3 >30  
NUMBER OF CASES = 478

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 280.37332

DF = 2, 472

F = 18.68068088646951

SUM OF SQUARES, MODEL 5 = 302.56639

p&lt;.001

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 280.37332

DF = 1, 472

F = 15.80015473654911

SUM OF SQUARES, MODEL 2 = 289.75879

p&lt;.001

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 289.75879

DF = 1, 473

F = 9.046326014820816

SUM OF SQUARES, MODEL 3 = 295.30055

p &lt; .01

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 280.37332

DF = 2, 472

F = 12.56477000022684

SUM OF SQUARES, MODEL 3 = 295.30055

p &lt; .001

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 295.30055

DF = 1, 474

F = 1.552656099015045

SUM OF SQUARES, MODEL 4 = 296.26785

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 302.56639

DF = 1, 474

F = 8.131334613867724

SUM OF SQUARES, MODEL 6 = 307.75683

p&lt;.01

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 307.75683

DF = 1, 475

F = 1.745321947850836

SUM OF SQUARES, MODEL 7 = 308.88764

NS

B-101

156

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-4  
(Page 25 of 29)

81.33

GRADE = 5

TEST = SCHOOL TYPE 2 VS. 3 &gt;30

NUMBER OF CASES = 272

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 101.37638

DF = 2, 266

F = .3210192551756119

SUM OF SQUARES, MODEL 5 = 101.62107

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 101.37638

DF = 1, 266

F = 5.247770733123781D-04

SUM OF SQUARES, MODEL 2 = 101.37658

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 101.37658

DF = 1, 267

F = .1532312492688203

SUM OF SQUARES, MODEL 3 = 101.43476

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 101.37638

DF = 2, 266

F = .0765912138507999

SUM OF SQUARES, MODEL 3 = 101.43476

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 101.43476

DF = 1, 268

F = .690880719784816

SUM OF SQUARES, MODEL 4 = 101.69625

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 101.62107

DF = 1, 268

F = .07542530304001156

SUM OF SQUARES, MODEL 6 = 101.64967

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 101.64967

DF = 1, 269

F = .6887110405769127

SUM OF SQUARES, MODEL 7 = 101.90992

NS

B-102



## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

81.33

Attachment B-4  
(Page 26 of 29)GRADE = 6  
TEST = SCHOOL TYPE >30  
NUMBER OF CASES = 451

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 177.45068

DF = 3, 442 F = .1643285522114216

SUM OF SQUARES, MODEL 5 = 177.6486

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 177.45068

DF = 2, 442 F = .1522272554830425

SUM OF SQUARES, MODEL 2 = 177.57291

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 177.57291

DF = 2, 444 F = 1.485801634945334

SUM OF SQUARES, MODEL 3 = 178.76137

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 177.45068

DF = 4, 442 F = .816177458435212

SUM OF SQUARES, MODEL 3 = 178.76137

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 178.76137

DF = 2, 446 F = .02806814470038688

SUM OF SQUARES, MODEL 4 = 178.78387

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 177.6486

DF = 2, 445 F = 1.433467390117353

SUM OF SQUARES, MODEL 6 = 178.79311

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 178.79311

DF = 2, 447 F = .0329887712115922

SUM OF SQUARES, MODEL 7 = 178.8195

NS

B-103

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-4  
(Page 27 of 29)

GRADE = 6  
TEST = SCHOOL TYPE 1 VS. 2 >30  
NUMBER OF CASES = 240

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 101.34394

DF = 2, 234

F = 4.006060944544071D-03

SUM OF SQUARES, MODEL 5 = 101.34741

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 101.34394

DF = 1, 234

F = 6.580561205732759D-03

SUM OF SQUARES, MODEL 2 = 101.34679

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 101.34679

DF = 1, 235

F = .9963990966068176

SUM OF SQUARES, MODEL 3 = 101.7765

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 101.34394

DF = 2, 234

F = .4993837816054959

SUM OF SQUARES, MODEL 3 = 101.7765

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 101.7765

DF = 1, 236

F = 2.68981542890252D-03

SUM OF SQUARES, MODEL 4 = 101.77766

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 101.34741

DF = 1, 236

F = 1.066556313575258

SUM OF SQUARES, MODEL 6 = 101.80543

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 101.80543

DF = 1, 237

F = 2.514207739209705D-03

SUM OF SQUARES, MODEL 7 = 101.80651

NS

B-104

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-4  
(Page 28 of 29)

GRADE = 6  
TEST = SCHOOL TYPE 1 VS. 3 >30  
NUMBER OF CASES = 434

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 165.72493

DF = 2, 428

F = .251609097074289

SUM OF SQUARES, MODEL 5 = 165.91978

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 165.72493

DF = 1, 428

F = .3015435275791017

SUM OF SQUARES, MODEL 2 = 165.84169

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 165.84169

DF = 1, 429

F = 2.063597277620606

SUM OF SQUARES, MODEL 3 = 166.63943

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 165.72493

DF = 2, 428

F = 1.180890527454138

SUM OF SQUARES, MODEL 3 = 166.63943

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 166.63943

DF = 1, 430

F = .04314465069882483

SUM OF SQUARES, MODEL 4 = 166.65615

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 165.91978

DF = 1, 430

F = 2.071528783367475

SUM OF SQUARES, MODEL 6 = 166.7191

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 166.7191

DF = 1, 431

F = .05793403395292943

SUM OF SQUARES, MODEL 7 = 166.74151

NS

B-105

81.33

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-4  
(Page 29 of 29)GRADE = 6  
TEST = SCHOOL TYPE 2 VS. 3 >30  
NUMBER OF CASES = 228

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 87.83249

SUM OF SQUARES, MODEL 5 = 88.03

DF = 2, 222

F = .2496070645384178

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 87.83249

SUM OF SQUARES, MODEL 2 = 87.84233

DF = 1, 222

F = .02487097883710361

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 87.84233

SUM OF SQUARES, MODEL 3 = 88.15118

DF = 1, 223

F = .7840587789508762

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 87.83249

SUM OF SQUARES, MODEL 3 = 88.15118

DF = 2, 222

F = .4027506222355761

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 88.15118

SUM OF SQUARES, MODEL 4 = 88.18313

DF = 1, 224

F = .08118779578447424

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 88.03

SUM OF SQUARES, MODEL 6 = 88.24691

DF = 1, 224

F = .5519463819152571

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 88.24691

SUM OF SQUARES, MODEL 7 = 88.2825

DF = 1, 225

F = .09074255404523742

NS

B-106

161

Attachment B-5

F-TESTS COMPARING LOW-ACHIEVING STUDENTS  
IN THREE TYPES OF SCHOOLS (Two-Year Gains)

(Page 1 of 21)

81.33

F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE  
Attachment B-5  
(Page 2 of 21)

GRADE = 2  
TEST = LONG. SCHOOL TYPE <30  
NUMBER OF CASES = 453

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 193.75841  
SUM OF SQUARES, MODEL 5 = 194.30825

DF = 3, 444

F = .4199885826891331  
NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 193.75841  
SUM OF SQUARES, MODEL 2 = 194.08594

DF = 2, 444

F = .3752696979707909  
NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 194.08594  
SUM OF SQUARES, MODEL 3 = 195.83846

DF = 2, 446

F = 2.013602633967201  
NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 193.75841  
SUM OF SQUARES, MODEL 3 = 195.83846

DF = 4, 444

F = 1.191615631032482  
NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 195.83846  
SUM OF SQUARES, MODEL 4 = 201.75283

DF = 2, 448

F = 6.764855483442831  
p < .01

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 194.30825  
SUM OF SQUARES, MODEL 6 = 196.00047

DF = 2, 447

F = 1.94644936589157  
NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 196.00047  
SUM OF SQUARES, MODEL 7 = 202.20085

DF = 2, 449

F = 7.101948837163502  
p < .001

B-108

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-5  
(Page 3 of 21)

GRADE = 2

TEST = LONG. SCHOOL TYPE &lt;30 1 VS. 2

NUMBER OF CASES = 333

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 145.54179

DF = 2, 327

F = .2299913653666087  
NS

SUM OF SQUARES, MODEL 5 = 145.74652

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 145.54179

DF = 1, 327

F = .4069587848273752  
NS

SUM OF SQUARES, MODEL 2 = 145.72292

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 145.72292

DF = 1, 328

F = 2.067898172778861  
NS

SUM OF SQUARES, MODEL 3 = 146.64164

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 145.54179

DF = 2, 327

F = 1.235559044587816  
NS

SUM OF SQUARES, MODEL 3 = 146.64164

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 146.64164

DF = 1, 329

F = 10.4299282250253  
p < .01

SUM OF SQUARES, MODEL 4 = 151.29046

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 145.74652

DF = 1, 329

F = 2.020729002654746  
NS

SUM OF SQUARES, MODEL 6 = 146.6417

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 146.6417

DF = 1, 330

F = 10.59289069889397  
p < .01

SUM OF SQUARES, MODEL 7 = 151.34885

B-109

# F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33  
GRADE = 2  
TEST = LONG. SCHOOL TYPE <30 1 VS. 3  
NUMBER OF CASES = 367

Attachment B-5  
(Page 4 of 21)

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 150.4347	DF = 2, 361	F = .5884334531860007
SUM OF SQUARES, MODEL 5 = 150.92512		NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 150.4347	DF = 1, 361	F = .07095949272342855
SUM OF SQUARES, MODEL 2 = 150.46427		NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 150.46427	DF = 1, 362	F = 3.124693590046322
SUM OF SQUARES, MODEL 3 = 151.76304		NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 150.4347	DF = 2, 361	F = 1.593816918569985
SUM OF SQUARES, MODEL 3 = 151.76304		NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 151.76304	DF = 1, 363	F = 7.550731917336395
SUM OF SQUARES, MODEL 4 = 154.91985		p < .01

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 150.92512	DF = 1, 363	F = 3.189827644331172
SUM OF SQUARES, MODEL 6 = 152.25136		p < .05

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 152.25136	DF = 1, 364	F = 8.165385452057711
SUM OF SQUARES, MODEL 7 = 155.66672		p < .01

B-110



## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-5  
(Page 5 of 21)

GRADE = 2

TEST = LONG. SCHOOL TYPE &lt;30 2 VS. 3

NUMBER OF CASES = 206

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 91.54034

DF = 2, 200

F = .4419144608813968  
NS

SUM OF SQUARES, MODEL 5 = 91.94487

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 91.54034

DF = 1, 200

F = .6920009254936085  
NS

SUM OF SQUARES, MODEL 2 = 91.85707

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 91.85707

DF = 1, 201

F = .0207439666865092  
NS

SUM OF SQUARES, MODEL 3 = 91.86655

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 91.54034

DF = 2, 200

F = .3563565527504045  
NS

SUM OF SQUARES, MODEL 3 = 91.86655

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 91.86655

DF = 1, 202

F = .7816442437425899  
NS

SUM OF SQUARES, MODEL 4 = 92.22203

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 91.94487

DF = 1, 202

F = .04646588765637984  
NS

SUM OF SQUARES, MODEL 6 = 91.96602

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 91.96602

DF = 1, 203

F = .7851939227118882  
NS

SUM OF SQUARES, MODEL 7 = 92.32174

B-111

GRADE = 3  
TEST = LONG. SCHOOL TYPE <30  
NUMBER OF CASES = 174

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 87.77215  
SUM OF SQUARES, MODEL 5 = 88.08263  
DF = 3, 165 F = .1945537394264593  
NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 87.77215  
SUM OF SQUARES, MODEL 2 = 87.92349  
DF = 2, 165 F = .1422495632156663  
NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 87.92349  
SUM OF SQUARES, MODEL 3 = 91.62804  
DF = 2, 167 F = 3.518171594416918  
p < .05

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 87.77215  
SUM OF SQUARES, MODEL 3 = 91.62804  
DF = 4, 165 F = 1.812140439763637  
NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 91.62804  
SUM OF SQUARES, MODEL 4 = 92.48403  
DF = 2, 169 F = .7893997841708736  
NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 88.08263  
SUM OF SQUARES, MODEL 6 = 92.18604  
DF = 2, 168 F = 3.913216941864698  
p < .05

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 92.18604  
SUM OF SQUARES, MODEL 7 = 93.03493  
DF = 2, 170 F = .7827177520587724  
NS

B-112

167

# F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-5  
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81.33  
GRADE = 3  
TEST = LONG. SCHOOL TYPE <30 1 VS. 2  
NUMBER OF CASES = 140

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 71.8897

SUM OF SQUARES, MODEL 5 = 72.17972

DF = 2, 134

F = .2702937973033674

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 71.8897

SUM OF SQUARES, MODEL 2 = 71.90873

DF = 1, 134

F = .03547128448164153

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 71.90873

SUM OF SQUARES, MODEL 3 = 74.29792

DF = 1, 135

F = 4.485417139198539

p < .05

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 71.8897

SUM OF SQUARES, MODEL 3 = 74.29792

DF = 2, 134

F = 2.244420828018478

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 74.29792

SUM OF SQUARES, MODEL 4 = 75.09489

DF = 1, 136

F = 1.45882845710889

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 72.17972

SUM OF SQUARES, MODEL 6 = 75.50553

DF = 1, 136

F = 6.266443815520486

p < .05

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 75.50553

SUM OF SQUARES, MODEL 7 = 76.13769

DF = 1, 137

F = 1.147014265047866

NS

B-113

168

## F VALUES FOR SPSS REGRESSION RESULTS---TWO GROUP CASE

81.33

Attachment B-5  
(Page 8 of 21)

GRADE = 3

TEST = LONG. SCHOOL TYPE &lt;30 1 VS. 3

NUMBER OF CASES = 135

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 64.29078

DF = 2, 129

F = .2642772416200252

SUM OF SQUARES, MODEL 5 = 64.5542

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 64.29078

DF = 1, 129

F = .3035847441888228

SUM OF SQUARES, MODEL 2 = 64.44208

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 64.44208

DF = 1, 130

F = .1239438578022296

SUM OF SQUARES, MODEL 3 = 64.50352

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 64.29078

DF = 2, 129

F = .2134323148669202

SUM OF SQUARES, MODEL 3 = 64.50352

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 64.50352

DF = 1, 131

F = .2365994910045225

SUM OF SQUARES, MODEL 4 = 64.62002

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 64.5542

DF = 1, 131

F = .04084985949791025

SUM OF SQUARES, MODEL 6 = 64.57433

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 64.57433

DF = 1, 132

F = .2996119355787329

SUM OF SQUARES, MODEL 7 = 64.7209

NS

B-114

169

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-5  
(Page 9 of 21)

81.33

GRADE = 3  
TEST = LONG. SCHOOL TYPE <30 2 VS. 3  
NUMBER OF CASES = 73

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 39.36383

DF = 2, 67

F = .05744486753448525

SUM OF SQUARES, MODEL 5 = 39.43133

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 39.36383

DF = 1, 67

F = .1046602934724594

SUM OF SQUARES, MODEL 2 = 39.42532

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 39.42532

DF = 1, 68

F = 5.326948265733797

SUM OF SQUARES, MODEL 3 = 42.5138

p < .05

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 39.36383

DF = 2, 67

F = 2.680734953890411

SUM OF SQUARES, MODEL 3 = 42.5138

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 42.5138

DF = 1, 69

F = 1.312944032290693

SUM OF SQUARES, MODEL 4 = 43.32276

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 39.43133

DF = 1, 69

F = 5.415381119531093

SUM OF SQUARES, MODEL 6 = 42.52605

p < .05

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 42.52605

DF = 1, 70

F = 1.364246150300817

SUM OF SQUARES, MODEL 7 = 43.35485

NS

B-115

170

# F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

GRADE = 81.33  
 TEST = LONG. SCHOOL TYPE <30  
 NUMBER OF CASES = 216

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## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 109.44389	DF = 3, 207	F = .5251858280987644
SUM OF SQUARES, MODEL 5 = 110.27691		NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 109.44389	DF = 2, 207	F = .1187881296982408
SUM OF SQUARES, MODEL 2 = 109.5695		NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 109.5695	DF = 2, 209	F = .879885050128003
SUM OF SQUARES, MODEL 3 = 110.49207		NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 109.44389	DF = 4, 207	F = .4956267088094192
SUM OF SQUARES, MODEL 3 = 110.49207		NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 110.49207	DF = 2, 211	F = .1016405521228814
SUM OF SQUARES, MODEL 4 = 110.59852		NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 110.27691	DF = 2, 210	F = .4901851167211706
SUM OF SQUARES, MODEL 6 = 110.79173		NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 110.79173	DF = 2, 212	F = .114398610798838
SUM OF SQUARES, MODEL 7 = 110.9113		NS

B-116

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

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(Page 11 of 21)

GRADE = 4

TEST = LONG. SCHOOL TYPE &lt;30 1 VS. 2

NUMBER OF CASES = 122

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 48.69444

DF = 2, 116

F = .7023565729475469

SUM OF SQUARES, MODEL 5 = 49.28411

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 48.69444

DF = 1, 116

F = .2887229014236511

SUM OF SQUARES, MODEL 2 = 48.81564

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 48.81564

DF = 1, 117

F = .0186468926762005

SUM OF SQUARES, MODEL 3 = 48.82342

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 48.69444

DF = 2, 116

F = .1536282171024036

SUM OF SQUARES, MODEL 3 = 48.82342

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 48.82342

DF = 1, 118

F = 8.410717643292101D-03

SUM OF SQUARES, MODEL 4 = 48.8269

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 49.28411

DF = 1, 118

F = 2.944965425975131D-03

SUM OF SQUARES, MODEL 6 = 49.28534

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 49.28534

DF = 1, 119

F = .06936890361312183

SUM OF SQUARES, MODEL 7 = 49.31407

NS

B-117

GRADE = 4  
TEST = LONG. SCHOOL TYPE <30 1 VS. 3  
NUMBER OF CASES = 190

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 99.43324  
SUM OF SQUARES, MODEL 5 = 100.10157

DF = 2, 184 F = .6183682639728904  
NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 99.43324  
SUM OF SQUARES, MODEL 2 = 99.44387

DF = 1, 184 F = .01967068557757769  
NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 99.44387  
SUM OF SQUARES, MODEL 3 = 100.31331

DF = 1, 185 F = 1.617459175713899  
NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 99.43324  
SUM OF SQUARES, MODEL 3 = 100.31331

DF = 2, 184 F = .8142794099840254  
NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 100.31331  
SUM OF SQUARES, MODEL 4 = 100.40505

DF = 1, 186 F = .1701034488842968  
NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 100.10157  
SUM OF SQUARES, MODEL 6 = 100.68667

DF = 1, 186 F = 1.087181749497037  
NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 100.68667  
SUM OF SQUARES, MODEL 7 = 100.78067

DF = 1, 187 F = .1745812032516342  
B-118 NS



F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33  
GRADE = 4  
TEST = LONG. SCHOOL TYPE <30 2 VS. 3  
NUMBER OF CASES = 120

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MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 70.76009  
SUM OF SQUARES, MODEL 5 = 71.05714

DF = 2, 114 F = .2392853089926826  
NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 70.76009  
SUM OF SQUARES, MODEL 2 = 70.86301

DF = 1, 114 F = .1658121124492622  
NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 70.86301  
SUM OF SQUARES, MODEL 3 = 71.09981

DF = 1, 115 F = .3842907604404649  
NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 70.76009  
SUM OF SQUARES, MODEL 3 = 71.09981

DF = 2, 114 F = .2736576508028762  
NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 71.09981  
SUM OF SQUARES, MODEL 4 = 71.11299

DF = 1, 116 F = .02150329234353532  
NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 71.05714  
SUM OF SQUARES, MODEL 6 = 71.19105

DF = 1, 116 F = .218606603080279  
NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 71.19105  
SUM OF SQUARES, MODEL 7 = 71.20856

DF = 1, 117 F = .02877707239885322  
NS

B-119

F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

81.33  
GRADE = 5  
TEST = LONG. SCHOOL TYPE  $\sqrt{30}$   
NUMBER OF CASES = 353

Attachment B-5  
(Page 14 of 21)

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 183.26445	DF = 3, 344	F = .5817599649031749
SUM OF SQUARES, MODEL 5 = 184.19424		NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 183.26445	DF = 2, 344	F = .4635890921561693
SUM OF SQUARES, MODEL 2 = 183.7584		NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 183.7584	DF = 2, 346	F = .4549386041672032
SUM OF SQUARES, MODEL 3 = 184.24163		NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 183.26445	DF = 4, 344	F = .458558547497887
SUM OF SQUARES, MODEL 3 = 184.24163		NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 184.24163	DF = 2, 348	F = 2.174602992819815
SUM OF SQUARES, MODEL 4 = 186.54423		NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 184.19424	DF = 2, 347	F = .4214806608501977
SUM OF SQUARES, MODEL 6 = 184.6417		NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 184.6417	DF = 2, 349	F = 2.132104990367831
SUM OF SQUARES, MODEL 7 = 186.89772		NS

B-120

175

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

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(Page 15 of 21)

GRADE = 5

TEST = LONG. SCHOOL TYPE &lt;30.1 VS. 2

NUMBER OF CASES = 161

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 80.40161

DF = 2, 155

F = .03566470870421532

SUM OF SQUARES, MODEL 5 = 80.43861

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 80.40161

DF = 1, 155

F = .06436997965587452

SUM OF SQUARES, MODEL 2 = 80.435

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 80.435

DF = 1, 156

F = .8449232299372179

SUM OF SQUARES, MODEL 3 = 80.87065

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 80.40161

DF = 2, 155

F = .4521128370439328

SUM OF SQUARES, MODEL 3 = 80.87065

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 80.87065

DF = 1, 157

F = 2.346458449388008

SUM OF SQUARES, MODEL 4 = 82.07931

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 80.43861

DF = 1, 157

F = .8484665510754083

SUM OF SQUARES, MODEL 6 = 80.87332

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 80.87332

DF = 1, 158

F = 2.358688625618439

SUM OF SQUARES, MODEL 7 = 82.08063

NS

B-121

176

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-5  
(Page 16 of 21)

GRADE = 5

TEST = LONG. SCHOOL TYPE &lt;30 1 VS. 3

NUMBER OF CASES = 336

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 177.00266

DF = 2, 330

F = .838989053787032  
NS

SUM OF SQUARES, MODEL 5 = 177.90268

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 177.00266

DF = 1, 330

F = .8099979966402857  
NS

SUM OF SQUARES, MODEL 2 = 177.43712

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 177.43712

DF = 1, 331

F = .01016670018087949  
NS

SUM OF SQUARES, MODEL 3 = 177.44257

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 177.00266

DF = 2, 330

F = .4100794304447187  
NS

SUM OF SQUARES, MODEL 3 = 177.44257

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 177.44257

DF = 1, 332

F = .851504799552895  
NS

SUM OF SQUARES, MODEL 4 = 177.89767

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 177.90268

DF = 1, 332

F = 4.852091042084983D-04  
NS

SUM OF SQUARES, MODEL 6 = 177.90294

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 177.90294

DF = 1, 333

F = .942548504257435  
NS

SUM OF SQUARES, MODEL 7 = 178.40649

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81.33

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE Attachment B-5  
(Page 17 of 21)

GRADE = 5

TEST = LONG. SCHOOL TYPE &lt;30 2 VS. 3

NUMBER OF CASES = 209

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 109.12462

SUM OF SQUARES, MODEL 5 = 110.04719

DF = 2, 203

F = .8581093340806122

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 109.12462

SUM OF SQUARES, MODEL 2 = 109.22851

DF = 1, 203

F = .193262253742559

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 109.22851

SUM OF SQUARES, MODEL 3 = 109.76492

DF = 1, 204

F = 1.001823058833266

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 109.12462

SUM OF SQUARES, MODEL 3 = 109.76492

DF = 2, 203

F = .5955617531589129

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 109.76492

SUM OF SQUARES, MODEL 4 = 111.96849

DF = 1, 205

F = 4.115448268900481

p &lt; .05

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 110.04719

SUM OF SQUARES, MODEL 6 = 110.47923

DF = 1, 205

F = .8048201866853744

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 110.47923

SUM OF SQUARES, MODEL 7 = 112.52195

DF = 1, 206

F = 3.808863620790984

NS

B-123 . 178

81.33 F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

Attachment B-5  
(Page 18 of 21)

GRADE = 6  
TEST = LONG. SCHOOL TYPE <30  
NUMBER OF CASES = 353

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 208.47649

SUM OF SQUARES, MODEL 5 = 209.06592

DF = 3, 344 F = .3241994976667774  
NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 208.47649

SUM OF SQUARES, MODEL 2 = 208.66456

DF = 2, 344 F = .1551639707671592  
NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 208.66456

SUM OF SQUARES, MODEL 3 = 209.52507

DF = 2, 346 F = .7134332250766476  
NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 208.47649

SUM OF SQUARES, MODEL 3 = 209.52507

DF = 4, 344 F = .4325565918727805  
NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 209.52507

SUM OF SQUARES, MODEL 4 = 212.50751

DF = 2, 348 F = 2.47676595454663  
NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 209.06592

SUM OF SQUARES, MODEL 6 = 209.97329

DF = 2, 347 F = .7530098401499425  
NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 209.97329

SUM OF SQUARES, MODEL 7 = 212.89216

DF = 2, 349 F = 2.425750508552774  
NS

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173

81.33

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-5  
(Page 19 of 21)

GRADE = 6  
TEST = LONG. SCHOOL TYPE <30 1 VS. 2  
NUMBER OF CASES = 140

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR.

SUM OF SQUARES, MODEL 1 = 71.09558	DF = 2, 134	F = .5043123637221894
SUM OF SQUARES, MODEL 5 = 71.63072		NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 71.09558	DF = 1, 134	F = .06920936575803816
SUM OF SQUARES, MODEL 2 = 71.1323		NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 71.1323	DF = 1, 135	F = 1.369940941035231
SUM OF SQUARES, MODEL 3 = 71.85413		NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 71.09558	DF = 2, 134	F = .7148524563693002
SUM OF SQUARES, MODEL 3 = 71.85413		NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 71.85413	DF = 1, 136	F = 3.043272251713297
SUM OF SQUARES, MODEL 4 = 73.46201		NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 71.63072	DF = 1, 136	F = 1.434165676402525
SUM OF SQUARES, MODEL 6 = 72.38609		NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 72.38609	DF = 1, 137	F = 2.859326840281056
SUM OF SQUARES, MODEL 7 = 73.89686	B-125	NS

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE (Page 20 of 21)

GRADE = 6  
 TEST = LONG. SCHOOL TYPE <30 1 VS. 3  
 NUMBER OF CASES = 340

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 199.59461

SUM OF SQUARES, MODEL 5 = 200.18199

DF = 2, 334

F = .4914584617289953  
NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 199.59461

SUM OF SQUARES, MODEL 2 = 199.76607

DF = 1, 334

F = .2869197720319137  
NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 199.76607

SUM OF SQUARES, MODEL 3 = 199.79121

DF = 1, 335

F = .04215881105334919  
NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 199.59461

SUM OF SQUARES, MODEL 3 = 199.79121

DF = 2, 334

F = .1644944219686064  
NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 199.79121

SUM OF SQUARES, MODEL 4 = 201.89858

DF = 1, 336

F = 3.544081443823279  
NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 200.18199

SUM OF SQUARES, MODEL 6 = 200.2188

DF = 1, 336

F = .061784579122238'8  
NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 200.2188

SUM OF SQUARES, MODEL 7 = 202.30295

DF = 1, 337  
B-126F = 3.507955047178389  
NS



81.33

Attachment B-5  
(Page 21 of 21)

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

GRADE = 6  
TEST = LONG. SCHOOL TYPE <30 2 VS. 3  
NUMBER OF CASES = 226

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 146.26279	DF = 2, 220	F = .0423791997951046
SUM OF SQUARES, MODEL 5 = 146.31914		NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 146.26279	DF = 1, 220	F = .01057411799678707
SUM OF SQUARES, MODEL 2 = 146.26982		NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 146.26982	DF = 1, 221	F = 1.331637312468151
SUM OF SQUARES, MODEL 3 = 147.15117		NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 146.26279	DF = 2, 220	F = .6681248183492177
SUM OF SQUARES, MODEL 3 = 147.15117		NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 147.15117	DF = 1, 222	F = .7198083440315144
SUM OF SQUARES, MODEL 4 = 147.62829		NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 146.31914	DF = 1, 222	F = 1.369346894739817
SUM OF SQUARES, MODEL 6 = 147.22167		NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 147.22167	DF = 1, 223	F = .7010136483304416
SUM OF SQUARES, MODEL 7 = 147.68447		NS

Attachment B-6

F-TESTS COMPARING HIGH-ACHIEVING STUDENTS  
IN THREE TYPES OF SCHOOLS (Two Year Gains)

(Page 1 of 21)

## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

81.33

Attachment B-6  
(Page 2 of 21)

GRADE = 2

TEST = LONG. SCHOOL TYPE &gt;30

NUMBER OF CASES = 466

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 330.15493

DF = 3, 457

F = 2.963739973028218

SUM OF SQUARES, MODEL 5 = 336.5783

p &lt; .05

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 330.15493

DF = 2, 457

F = .3602792180022948

SUM OF SQUARES, MODEL 2 = 330.67549

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 330.67549

DF = 2, 459

F = .6321399569106115

SUM OF SQUARES, MODEL 3 = 331.58631

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 330.15493

DF = 4, 457

F = .4953285568081593

SUM OF SQUARES, MODEL 3 = 331.58631

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 331.58631

DF = 2, 461

F = 1.775541954672383

SUM OF SQUARES, MODEL 4 = 334.14052

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 336.5783

DF = 2, 460

F = 1.067628245790065

SUM OF SQUARES, MODEL 6 = 338.14065

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 338.14065

DF = 2, 462

F = 8.983535431188172

SUM OF SQUARES, MODEL 7 = 351.29086

p &lt; .001

B-129

184

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-6  
(Page 3 of 21)

81.33

GRADE = 2

TEST = LONG. SCHOOL TYPE &gt;30 1 VS. 2

NUMBER OF CASES = 263

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 165.6353

DF = 2, 257

F = 4.014722646682201  
p < .05

SUM OF SQUARES, MODEL 5 = 170.81024

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 165.6353

DF = 1, 257

F = .09056698662665407  
NS

SUM OF SQUARES, MODEL 2 = 165.69367

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 165.69367

DF = 1, 258

F = .3429647010655205  
NS.

SUM OF SQUARES, MODEL 3 = 165.91393

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 165.6353

DF = 2, 257

F = .2161613798507952  
NS

SUM OF SQUARES, MODEL 3 = 165.91393

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 165.91393

DF = 1, 259

F = .7336312267450967  
NS

SUM OF SQUARES, MODEL 4 = 166.38389

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 170.81024

DF = 1, 259

F = .4901447945977916  
NS

SUM OF SQUARES, MODEL 6 = 171.13349

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 171.13349

DF = 1, 260

F = .5508612019774757  
NS

SUM OF SQUARES, MODEL 7 = 171.49607

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F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-6  
(Page 4 of 21)

GRADE = 2  
TEST = LONG. SCHOOL TYPE >30 1 VS. 3  
NUMBER OF CASES = 412

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 303.03656

DF = 2, 406

F = 3.875678147349614  
p < .05

SUM OF SQUARES, MODEL 5 = 308.82363

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 303.03656

DF = 1, 406

F = .6972041261292024  
NS

SUM OF SQUARES, MODEL 2 = 303.55695

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 303.55695

DF = 1, 407

F = .4961116521957463  
NS

SUM OF SQUARES, MODEL 3 = 303.92697

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 303.03656

DF = 2, 406

F = .5964733430184153  
NS

SUM OF SQUARES, MODEL 3 = 303.92697

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 303.92697

DF = 1, 408

F = 12.65244871160991  
p < .001

SUM OF SQUARES, MODEL 4 = 313.35202

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 308.82363

DF = 1, 408

F = .9652134456162007  
NS

SUM OF SQUARES, MODEL 6 = 309.55422

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 309.55422

DF = 1, 409

F = 13.41446219017786  
p < .001

SUM OF SQUARES, MODEL 7 = 319.70704

B131

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-6  
(Page 5 of 21)

GRADE = 2

TEST = LONG. SCHOOL TYPE &gt;30 2 VS. 3

NUMBER OF CASES = 257

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 191.63799

SUM OF SQUARES, MODEL 5 = 193.52273

DF = 2, 251

F = 1.234279643613464  
NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 191.63799

SUM OF SQUARES, MODEL 2 = 191.68411

DF = 1, 251

F = .0604061856420039  
NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 191.68411

SUM OF SQUARES, MODEL 3 = 192.57654

DF = 1, 252

F = 1.173244668011346  
NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 191.63799

SUM OF SQUARES, MODEL 3 = 192.57654

DF = 2, 251

F = .6146381779520875  
NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 192.57654

SUM OF SQUARES, MODEL 4 = 199.56329

DF = 1, 253

F = 9.178936073937148  
p < .01

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 193.52273

SUM OF SQUARES, MODEL 6 = 194.79999

DF = 1, 253

F = 1.669813049867572  
NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 194.79999

SUM OF SQUARES, MODEL 7 = 201.79058

DF = 1, 254

F = 9.115040816993884  
p < .01

B-132

# F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

81.33

Attachment B-6  
(Page 6 of 21)

GRADE = 3

TEST = LONG. SCHOOL TYPE >30

NUMBER OF CASES = 374

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 219.07704

DF = 3, 365

F = 4.995031732520515

SUM OF SQUARES, MODEL 5 = 228.07126

p < .01

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 219.07704

DF = 2, 365

F = .3872221160191006

SUM OF SQUARES, MODEL 2 = 219.54187

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 219.54187

DF = 2, 367

F = .5368378250581477

SUM OF SQUARES, MODEL 3 = 220.18415

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 219.07704

DF = 4, 365

F = .4611336153711036

SUM OF SQUARES, MODEL 3 = 220.18415

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 220.18415

DF = 2, 369

F = 3.354345873669835

SUM OF SQUARES, MODEL 4 = 224.18726

p < .05

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 228.07126

DF = 2, 368

F = 15.12071165827734

SUM OF SQUARES, MODEL 6 = 246.81365

p < .001

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 246.81365

DF = 2, 370

F = 2.94172708843291

SUM OF SQUARES, MODEL 7 = 250.73829

NS

B-133

81.33

Attachment B-6

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE (Page 7 of 21)

GRADE = 3  
TEST = LONG. SCHOOL TYPE >30 1 VS. 2  
NUMBER OF CASES = 238

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 147.46819

DF = 2, 232

F = 5.828790330985957

SUM OF SQUARES, MODEL 5 = 154.8782

p < .01

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 147.46819

DF = 1, 232

F = .2739763741590603

SUM OF SQUARES, MODEL 2 = 147.64234

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 147.64234

DF = 1, 233

F = .4010522320358836

SUM OF SQUARES, MODEL 3 = 147.89647

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 147.46819

DF = 2, 232

F = .3368894674844799

SUM OF SQUARES, MODEL 3 = 147.89647

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 147.89647

DF = 1, 234

F = 5.286864926525963

SUM OF SQUARES, MODEL 4 = 151.23796

p < .01

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 154.8782

DF = 1, 234

F = 17.73162859589019

SUM OF SQUARES, MODEL 6 = 166.61428

p < .001

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 166.61428

DF = 1, 235

F = 1.696199149316609

SUM OF SQUARES, MODEL 7 = 167.81688

NS

B-134

100



81.33

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-6  
(Page 8 of 21)

GRADE = 3

TEST = LONG. SCHOOL TYPE >30 1 VS. 3

NUMBER OF CASES = 301

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 174.04119

SUM OF SQUARES, MODEL 5 = 175.63135

DF = 2, 295

F = .1347661435778508.  
NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 174.04119

SUM OF SQUARES, MODEL 2 = 174.47017

DF = 1, 295

F = .7271215509386134  
NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 174.47017

SUM OF SQUARES, MODEL 3 = 174.63511

DF = 1, 296

F = .279831446258116  
NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 174.04119

SUM OF SQUARES, MODEL 3 = 174.63511

DF = 2, 295

F = .5033475121607743  
NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 174.63511

SUM OF SQUARES, MODEL 4 = 175.84408

DF = 1, 297

F = 2.056081907011707  
NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 175.63135

SUM OF SQUARES, MODEL 6 = 175.63227

DF = 1, 297

F = 1.555758695701009D-03  
NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 175.63227

SUM OF SQUARES, MODEL 7 = 176.76919

DF = 1, 298  
B-135

F = 1.92904276645744  
NS

81.33

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-6  
(Page 9 of 21)

GRADE = 3

TEST = LONG. SCHOOL TYPE &gt;30 2 VS. 3

NUMBER OF CASES = 209

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 116.6447

DF = 2, 203

F = 7.821293637859241

SUM OF SQUARES, MODEL 5 = 125.633

p &lt; .001

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 116.6447

DF = 1, 203

F = .4691053258313474

SUM OF SQUARES, MODEL 2 = 116.91425

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 116.91425

DF = 1, 204

F = .909687228032511

SUM OF SQUARES, MODEL 3 = 117.4356

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 116.6447

DF = 2, 203

F = .6882125805973171

SUM OF SQUARES, MODEL 3 = 117.4356

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 117.4356

DF = 1, 205

F = 1.299836676442242

SUM OF SQUARES, MODEL 4 = 118.18022

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 125.633

DF = 1, 205

F = 23.89052080265536

SUM OF SQUARES, MODEL 6 = 140.27416

p &lt; .001

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 140.27416

DF = 1, 206  
B-136F = .702702479202152  
NS

SUM OF SQUARES, MODEL 7 = 140.75266

## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

Attachment B-6  
(Page 10 of 21)

81.33

GRADE = 4  
TEST = LONG. SCHOOL TYPE >30  
NUMBER OF CASES = 309

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 130.68571

DF = 3, 300

F = .426840853525607

SUM OF SQUARES, MODEL 5 = 131.24353

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 130.68571

DF = 2, 300

F = .571634802305466

SUM OF SQUARES, MODEL 2 = 131.18374

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 131.18374

DF = 2, 302

F = .757614396418338

SUM OF SQUARES, MODEL 3 = 131.84193

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 130.68571

DF = 4, 300

F = .6635499780350875

SUM OF SQUARES, MODEL 3 = 131.84193

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 131.84193

DF = 2, 304

F = 3.222020794143417

SUM OF SQUARES, MODEL 4 = 134.63665

p &lt; .01

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 131.24353

DF = 2, 303

F = .7981932899854175

SUM OF SQUARES, MODEL 6 = 131.935

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 131.935

DF = 2, 305

F = 3.340054572327282

SUM OF SQUARES, MODEL 7 = 134.82464

p &lt; .05

B-137  
192

81.33

F-VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-6  
(Page 11 of 21)

GRADE = 4  
TEST = LONG. SCHOOL TYPE >30 1 VS. 2  
NUMBER OF CASES = 150

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 64.72985

DF = 2, 144

F = .2897358791963824  
NS

SUM OF SQUARES, MODEL 5 = 64.99033

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 64.72985

DF = 1, 144

F = .4562494737744607  
NS

SUM OF SQUARES, MODEL 2 = 64.93494

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 64.93494

DF = 1, 145

F = .2045878536270319  
NS

SUM OF SQUARES, MODEL 3 = 65.02656

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 64.72985

DF = 2, 144

F = .3300350611039565  
NS

SUM OF SQUARES, MODEL 3 = 65.02656

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 65.02656

DF = 1, 146

F = 5.982656932797922  
p < .05

SUM OF SQUARES, MODEL 4 = 67.69116

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 64.99033

DF = 1, 146

F = .1439998842904779  
NS

SUM OF SQUARES, MODEL 6 = 65.05443

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 65.05443

DF = 1, 147

F = 5.96033675185533  
p < .05

SUM OF SQUARES, MODEL 7 = 67.69216

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193

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-6  
(Page 12 of 21)

GRADE = 4  
TEST = LONG. SCHOOL TYPE >30 1 VS. 3  
NUMBER OF CASES = 290

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 126.48698

DF = 2, 284

F = .4102370062120231  
NS

SUM OF SQUARES, MODEL 5 = 126.8524

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 126.48698

DF = 1, 284

F = .7040108001629876  
NS

SUM OF SQUARES, MODEL 2 = 126.80053

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 126.80053

DF = 1, 285

F = 1.461023467330939  
NS

SUM OF SQUARES, MODEL 3 = 127.45056

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 126.48698

DF = 2, 284

F = 1.081758454506545  
NS

SUM OF SQUARES, MODEL 3 = 127.45056

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 127.45056

DF = 1, 286

F = 2.942432265499665  
NS

SUM OF SQUARES, MODEL 4 = 128.7618

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 126.8524

DF = 1, 286

F = 1.511431238194937  
NS

SUM OF SQUARES, MODEL 6 = 127.52278

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 127.52278

DF = 1, 287

F = 3.076923119147822  
NS

SUM OF SQUARES, MODEL 7 = 128.88995

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194

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33  
GRADE = 4  
TEST = LONG. SCHOOL TYPE >30 2 VS. 3  
NUMBER OF CASES = 178

Attachment B-6  
(Page 13 of 21)

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 70.15459

SUM OF SQUARES, MODEL 5 = 70.64432

DF = 2, 172

F = .6003424722459354  
NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 70.15459

SUM OF SQUARES, MODEL 2 = 70.32235

DF = 1, 172

F = .4113019547259831  
NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 70.32235

SUM OF SQUARES, MODEL 3 = 70.32514

DF = 1, 173

F = 6.863678474906747D-03  
NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 70.15459

SUM OF SQUARES, MODEL 3 = 70.32514

DF = 2, 172

F = .2090711384672034  
NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 70.32514

SUM OF SQUARES, MODEL 4 = 71.03594

DF = 1, 174

F = 1.75867691127241  
NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 70.64432

SUM OF SQUARES, MODEL 6 = 70.64877

DF = 1, 174

F = .01096054148443994  
NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 70.64877

SUM OF SQUARES, MODEL 7 = 71.37131

DF = 1, 175

F = 1.789762227990565  
NS

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F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

81.33  
GRADE = 5  
TEST = LONG. SCHOOL TYPE >30  
NUMBER OF CASES = 405

Attachment B-6.  
(Page 14 of 21)

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 257.99855

DF = 3, 396

F = 1.099376876342909

SUM OF SQUARES, MODEL 5 = 260.14732

NS.

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 257.99855

DF = 2, 396

F = 1.552727796338386

SUM OF SQUARES, MODEL 2 = 260.02179

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 260.02179

DF = 2, 398

F = .03362818169969464

SUM OF SQUARES, MODEL 3 = 260.06573

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 257.99855

DF = 4, 396

F = .7932246906038788

SUM OF SQUARES, MODEL 3 = 260.06573

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 260.06573

DF = 2, 400

F = .5844445556129235

SUM OF SQUARES, MODEL 4 = 260.8257

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 260.14732

DF = 2, 399

F = .05876549103023743

SUM OF SQUARES, MODEL 6 = 260.22395

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 260.22395

DF = 2, 401

F = .6143503509188924

SUM OF SQUARES, MODEL 7 = 261.0213

NS

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81.33

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-6  
(Page 15 of 21)

GRADE = 5

TEST = LONG. SCHOOL TYPE &gt;30 1 VS. 2

NUMBER OF CASES = 155

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 126.63678

DF = 2, 149

F = .7114272223598896

SUM OF SQUARES, MODEL 5 = 127.84642

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 126.63678

DF = 1, 149

F = .3163389024894686

SUM OF SQUARES, MODEL 2 = 126.90564

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 126.90564

DF = 1, 150

F = .05179438833451606

SUM OF SQUARES, MODEL 3 = 126.94946

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 126.63678

DF = 2, 149

F = .1839486127174134

SUM OF SQUARES, MODEL 3 = 126.94946

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 126.94946

DF = 1, 151

F = .8385739490345188

SUM OF SQUARES, MODEL 4 = 127.65447

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 127.84642

DF = 1, 151

F = .03328352878398612

SUM OF SQUARES, MODEL 6 = 127.8746

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 127.8746

DF = 1, 152

F = .6264856351456808

SUM OF SQUARES, MODEL 7 = 128.40165

NS

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197



F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33  
GRADE = 5  
TEST = LONG. SCHOOL TYPE >30 1 VS. 3  
NUMBER OF CASES = 385

Attachment B-6  
(Page 16 of 21).

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 251.90493

DF = 2, 379

F = 1.251706129768881  
NS

SUM OF SQUARES, MODEL 5 = 253.56884

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 251.90493

DF = 1, 379

F = 2.233423299813945  
NS

SUM OF SQUARES, MODEL 2 = 253.38939

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 253.38939

DF = 1, 380

F = 8.983012272129982D-03  
NS

SUM OF SQUARES, MODEL 3 = 253.39538

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 251.90493

DF = 2, 379

F = 1.121217734801773  
NS

SUM OF SQUARES, MODEL 3 = 253.39538

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 253.39538

DF = 1, 381

F = .7403773896745969  
NS

SUM OF SQUARES, MODEL 4 = 253.88779

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 253.56884

DF = 1, 381

F = .04527184807091125  
NS

SUM OF SQUARES, MODEL 6 = 253.59897

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 253.59897

DF = 1, 382

F = .7624666614379449  
NS

SUM OF SQUARES, MODEL 7 = 254.10515

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81.33

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-6  
(Page 17 of 21)

GRADE = 5

TEST = LONG. SCHOOL TYPE &gt;30 2 VS. 3

NUMBER OF CASES = 270

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 137.45539

SUM OF SQUARES, MODEL 5 = 138.87938

DF = 2, 264

F = 1.367474058310842

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 137.45539

SUM OF SQUARES, MODEL 2 = 138.09468

DF = 1, 264

F = 1.227835154372628

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 138.09468

SUM OF SQUARES, MODEL 3 = 138.11247

DF = 1, 265

F = .03413853451849416

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 137.45539

SUM OF SQUARES, MODEL 3 = 138.11247

DF = 2, 264

F = .631001519838546

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 138.11247

SUM OF SQUARES, MODEL 4 = 138.24584

DF = 1, 266

F = .2568661613248957

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 138.87938

SUM OF SQUARES, MODEL 6 = 138.93477

DF = 1, 266

F = .1060901913588664

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 138.93477

SUM OF SQUARES, MODEL 7 = 139.10732

DF = 1, 267

F = .3316095777387427

NS

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198

81.33

F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE  
Attachment B-6  
(Page 18 of 21)

GRADE = 6  
TEST = LONG. SCHOOL TYPE >30  
NUMBER OF CASES = 337

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 175.71286	DF = 3, 328	F = .1148382651104792
SUM OF SQUARES, MODEL 5 = 175.89742		NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 175.71286	DF = 2, 328	F = .1217636546351809
SUM OF SQUARES, MODEL 2 = 175.84332		NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 175.84332	DF = 2, 330	F = .9522602280257216
SUM OF SQUARES, MODEL 3 = 176.85816		NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 175.71286	DF = 4, 328	F = .5344776699895495
SUM OF SQUARES, MODEL 3 = 176.85816		NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 176.85816	DF = 2, 332	F = .07937784719687509
SUM OF SQUARES, MODEL 4 = 176.94273		NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 175.89742	DF = 2, 331	F = .9233228946734942
SUM OF SQUARES, MODEL 6 = 176.87875		NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 176.87875	DF = 2, 333	F = .0882866653003809
SUM OF SQUARES, MODEL 7 = 176.97254		NS

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200

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B.6  
(Page 19 of 21)

81.33

GRADE = 6

TEST = LONG. SCHOOL TYPE >30 1 VS. 2

NUMBER OF CASES = 134

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 61.57087

DF = 2, 128

F = .1634539190367137

SUM OF SQUARES, MODEL 5 = 61.72812

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 61.57087

DF = 1, 128

F = .2711931795019314

SUM OF SQUARES, MODEL 2 = 61.70132

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 61.70132

DF = 1, 129

F = .1287672613811194

SUM OF SQUARES, MODEL 3 = 61.76291

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 61.57087

DF = 2, 128

F = .199616474478923

SUM OF SQUARES, MODEL 3 = 61.76291

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 61.76291

DF = 1, 130

F = .1159757530854691

SUM OF SQUARES, MODEL 4 = 61.81801

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 61.72812

DF = 1, 130

F = .1655744577997838

SUM OF SQUARES, MODEL 6 = 61.80674

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 61.80674

DF = 1, 131

F = .173784606662648

SUM OF SQUARES, MODEL 7 = 61.86212

NS

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# F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

GRADE = 81.33  
 TEST = LONG. SCHOOL TYPE >30 1 VS. 3  
 NUMBER OF CASES = 323

Attachment B-6  
 (Page 20 of 21)

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 162.96707	DF = 2, 317	F = .04360117046959342
SUM OF SQUARES, MODEL 5 = 163.0119		NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 162.96707	DF = 1, 317	F = 1.303269427374763D-03
SUM OF SQUARES, MODEL 2 = 162.96774		NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 162.96774	DF = 1, 318	F = 1.696017015392127
SUM OF SQUARES, MODEL 3 = 163.83691		NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 162.96707	DF = 2, 317	F = .84599692440933
SUM OF SQUARES, MODEL 3 = 163.83691		NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 163.83691	DF = 1, 319	F = .1677974761609014
SUM OF SQUARES, MODEL 4 = 163.92309		NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 163.0119	DF = 1, 319	F = 1.626996495347889
SUM OF SQUARES, MODEL 6 = 163.84331		NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 163.84331	DF = 1, 320	F = .1793713762252508
SUM OF SQUARES, MODEL 7 = 163.93515		NS

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F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-6  
(Page 21 of 21)

GRADE = 6  
TEST = LONG. SCHOOL TYPE >30 2 VS. 3  
NUMBER OF CASES = 217

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 126.88778

DF = 2, 211

F = .13898429602914  
NS

SUM OF SQUARES, MODEL 5 = 127.05482

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 126.88778

DF = 1, 211

F = .2130490422324371

SUM OF SQUARES, MODEL 2 = 127.0159

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 127.0159

DF = 1, 212

F = .3166082356618384  
NS

SUM OF SQUARES, MODEL 3 = 127.20559

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 126.88778

DF = 2, 211

F = .2642410088662623  
NS

SUM OF SQUARES, MODEL 3 = 127.20559

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 127.20559

DF = 1, 213

F = .01291004585568529  
NS

SUM OF SQUARES, MODEL 4 = 127.2133

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 127.05482

DF = 1, 213

F = .3653134135328324  
NS

SUM OF SQUARES, MODEL 6 = 127.27273

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 127.27273

DF = 1, 214

F = .01392222827309671  
NS

SUM OF SQUARES, MODEL 7 = 127.28101

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20.3

Attachment B-7 .

F-TESTS TO COMPARE RAINBOW KIT  
PARTICIPANTS WITH A COMPARISON GROUP

(Page 1 of 8)

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-7  
(Page 2 of 8)GRADE = K  
TEST = RAINBOW KITS  
NUMBER OF CASES = 618

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 243.35182

SUM OF SQUARES, MODEL 5 = 245.05072

DF = 2, 612

F = 2.13626263407441  
NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 243.35182

SUM OF SQUARES, MODEL 2 = 243.91669

DF = 1, 612

F = 1.420578814656106  
NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 243.91669

SUM OF SQUARES, MODEL 3 = 243.917

DF = 1, 613

F = 7.790774792524689D-04  
NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 243.35182

SUM OF SQUARES, MODEL 3 = 243.917

DF = 2, 612

F = .7106792133298999  
NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 243.917

SUM OF SQUARES, MODEL 4 = 247.21285

DF = 1, 614

F = 8.296477490293834  
p < .01

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 245.05072

SUM OF SQUARES, MODEL 6 = 245.06809

DF = 1, 614

F = .04352233692681986  
NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 245.06809

SUM OF SQUARES, MODEL 7 = 248.85281

DF = 1, 615

F = 9.497779984330061  
p < .01

B-150

205



81.33

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE  
Attachment B-7  
(Page 3 of 8)GRADE = 1  
TEST = RAINBOW KITS  
NUMBER OF CASES = 434

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 111.87762

DF = 2, 428

F = .2231286293004767

SUM OF SQUARES, MODEL 5 = 111.99427

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 111.87762

DF = 1, 428

F = .05627470444936261

SUM OF SQUARES, MODEL 2 = 111.89233

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 111.89233

DF = 1, 429

F = .5793238911013813

SUM OF SQUARES, MODEL 3 = 112.04343

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 111.87762

DF = 2, 428

F = .3171620919358041

SUM OF SQUARES, MODEL 3 = 112.04343

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 112.04343

DF = 1, 430

F = 1.577066143012602

SUM OF SQUARES, MODEL 4 = 112.45436

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 111.99427

DF = 1, 430

F = .5046231383087722

SUM OF SQUARES, MODEL 6 = 112.1257

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 112.1257

DF = 1, 431

F = 1.65491435059045

SUM OF SQUARES, MODEL 7 = 112.55623

NS

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F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-7  
(Page 4 of 8)

GRADE = 2  
TEST = RAINBOW KITS  
NUMBER OF CASES = 288

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 117.41791

DF = 2, 282

F = 5.780982815994595  
p < .01

SUM OF SQUARES, MODEL 5 = 122.23203

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 117.41791

DF = 1, 282

F = 6.578604064746165  
p < .05

SUM OF SQUARES, MODEL 2 = 120.15708

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 120.15708

DF = 1, 283

F = .01530912701939188  
NS

SUM OF SQUARES, MODEL 3 = 120.16358

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 117.41791

DF = 2, 282

F = 3.297107485561609  
p < .05

SUM OF SQUARES, MODEL 3 = 120.16358

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 120.16358

DF = 1, 284

F = 2.47421955970354  
NS

SUM OF SQUARES, MODEL 4 = 121.21045

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 122.23203

DF = 1, 284

F = 1.835525434700565D-03  
NS

SUM OF SQUARES, MODEL 6 = 122.23282

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 122.23282

DF = 1, 285

F = 2.481678815885939  
NS

SUM OF SQUARES, MODEL 7 = 123.29718

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207

81.33

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-7  
(Page 5 of 8)

GRADE = 3  
TEST = RAINBOW KITS  
NUMBER OF CASES = 431

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 130.92711

DF = 2, 425

F = .3166389680487112  
NS

SUM OF SQUARES, MODEL 5 = 131.1222

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 130.92711

DF = 1, 425

F = .3433055232029488  
NS

SUM OF SQUARES, MODEL 2 = 131.03287

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 131.03287

DF = 1, 426

F = 2.537867941074618  
NS

SUM OF SQUARES, MODEL 3 = 131.81349

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 130.92711

DF = 2, 425

F = 1.438630624322182  
NS

SUM OF SQUARES, MODEL 3 = 131.81349

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 131.81349

DF = 1, 427

F = 3.787374494067343  
NS

SUM OF SQUARES, MODEL 4 = 132.98264

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 131.1222

DF = 1, 427

F = 2.712277249771585  
NS

SUM OF SQUARES, MODEL 6 = 131.95508

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 131.95508

DF = 1, 428

F = 3.996091397163333  
p < .05

SUM OF SQUARES, MODEL 7 = 133.1871

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# F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-7  
(Page 6 of 8)

GRADE = 4  
TEST = RAINBOW KITS  
NUMBER OF CASES = 369

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 131.7585

DF = 2, 363

F = .8959804870274074

SUM OF SQUARES, MODEL 5 = 132.40893

NS

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 131.7585

DF = 1, 363

F = .03209622149615475

SUM OF SQUARES, MODEL 2 = 131.77015

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 131.77015

DF = 1, 364

F = .06008189259859156

SUM OF SQUARES, MODEL 3 = 131.7919

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 131.7585

DF = 2, 363

F = .0460091758786014

SUM OF SQUARES, MODEL 3 = 131.7919

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 131.7919

DF = 1, 365

F = 8.121832221858849

SUM OF SQUARES, MODEL 4 = 134.72448

p < .01

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 132.40893

DF = 1, 365

F = .124323185754903

SUM OF SQUARES, MODEL 6 = 132.45403

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 132.45403

DF = 1, 366

F = 7.442409113561904

SUM OF SQUARES, MODEL 7 = 135.14741

p < .01

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81.33

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

Attachment B-7  
(Page 7 of 8)

GRADE = 5  
TEST = RAINBOW KITS  
NUMBER OF CASES = 376

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 177.07227

SUM OF SQUARES, MODEL 5 = 184.89455

DF = 2, 370

F = 8.172492508284897  
p < .001

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 177.07227

SUM OF SQUARES, MODEL 2 = 177.43303

DF = 1, 370

F = .7538232835666532  
NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 177.43303

SUM OF SQUARES, MODEL 3 = 177.43316

DF = 1, 371

F = 2.718208667207688D-04  
NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 177.07227

SUM OF SQUARES, MODEL 3 = 177.43316

DF = 2, 370

F = .3770474620334411  
NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 177.43316

SUM OF SQUARES, MODEL 4 = 177.75973

DF = 1, 372

F = .6846749502742334  
NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 184.89455

SUM OF SQUARES, MODEL 6 = 184.94329

DF = 1, 372

F = .09806281472331569  
NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 184.94329

SUM OF SQUARES, MODEL 7 = 185.07692

DF = 1, 373

F = .2695095885879399  
NS

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210

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

Attachment B-7  
(Page 8 of 8)GRADE = 6  
TEST = RAINBOW KITS  
NUMBER OF CASES = 327

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 135.52691

SUM OF SQUARES, MODEL 5 = 139.59176

DF = 2, 321

F = 4.813866301533769

p &lt; .01

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 135.52691

SUM OF SQUARES, MODEL 2 = 135.57994

DF = 1, 321

F = .125603321141166

NS

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 135.57994

SUM OF SQUARES, MODEL 3 = 135.58015

DF = 1, 322

F = 4.987463484622284D-04

NS

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 135.52691

SUM OF SQUARES, MODEL 3 = 135.58015

DF = 2, 321

F = .06305035656756149

NS

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 135.58015

SUM OF SQUARES, MODEL 4 = 136.62431

DF = 1, 323

F = 2.487559425181345

NS

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 139.59176

SUM OF SQUARES, MODEL 6 = 139.70337

DF = 1, 323

F = .2582532808526781

NS

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 139.70337

SUM OF SQUARES, MODEL 7 = 140.49417

DF = 1, 324

F = 1.8340230446839

NS

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211

Attachment B-8

F-TESTS COMPARING 3 LOCATIONS OF SERVICE

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## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

GRADE = K  
TEST = K-LOCATION  
NUMBER OF CASES = 241

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 70.34903

SUM OF SQUARES, MODEL 5 = 72.01298

DF = 3, 232

F = 1.829148177309623

(NS)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 70.34903

SUM OF SQUARES, MODEL 2 = 70.54001

DF = 2, 232

F = .3149109518638674

(NS)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 70.54001

SUM OF SQUARES, MODEL 3 = 70.80372

DF = 2, 234

F = .4373981517723087

(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 70.34903

SUM OF SQUARES, MODEL 3 = 70.80372

DF = 4, 232

F = .3748739677007624

(NS)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 70.80372

SUM OF SQUARES, MODEL 4 = 70.93561

DF = 2, 236

F = .2198051175842178

(NS)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 72.01298

SUM OF SQUARES, MODEL 6 = 72.15412

DF = 2, 235

F = .2302911225170767

(NS)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 72.15412

SUM OF SQUARES, MODEL 7 = 72.26073

DF = 2, 237

F = .1750875071305697

(NS)



## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

GRADE = 1  
TEST = LOCATION  
NUMBER OF CASES = 379

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 92.63531

DF = 3, 370

F = .09020138577107755

SUM OF SQUARES, MODEL 5 = 92.70306

(NS)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 92.63531

DF = 2, 370

F = .1351622831509915

SUM OF SQUARES, MODEL 2 = 92.70299

(NS)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 92.70299

DF = 2, 372

F = .3042918033172387

SUM OF SQUARES, MODEL 3 = 92.85465

(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 92.63531

DF = 4, 370

F = .2190196157383173

SUM OF SQUARES, MODEL 3 = 92.85465

(NS)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 92.85465

DF = 2, 374

F = .5380738605982571

SUM OF SQUARES, MODEL 4 = 93.12183

(NS)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 92.70306

DF = 2, 373

F = .3090124533106008

SUM OF SQUARES, MODEL 6 = 92.85666

(NS)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 92.85666

DF = 2, 375

F = .5361489418206522

SUM OF SQUARES, MODEL 7 = 93.12218

(NS)

## F VALUES FOR SPSS REGRESSION RESULTS---THREE GROUP CASE

GRADE = 2  
TEST = LOCATION  
NUMBER OF CASES = 211

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 71.20989  
SUM OF SQUARES, MODEL 5 = 79.3892  
DF = 3, 202 F = 7.734040969121942  
(p < .001)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 71.20989  
SUM OF SQUARES, MODEL 2 = 74.27321000000001  
DF = 2, 202 F = 4.344836370341261  
(p < .05)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 74.27321000000001  
SUM OF SQUARES, MODEL 3 = 75.59397  
DF = 2, 204 F = 1.813810390045073  
(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 71.20989  
SUM OF SQUARES, MODEL 3 = 75.59397  
DF = 4, 202 F = 3.109063080984959  
(p < .05)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 75.59397  
SUM OF SQUARES, MODEL 4 = 78.552  
DF = 2, 206 F = 4.030441713803367  
(p < .05)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 79.3892  
SUM OF SQUARES, MODEL 6 = 79.9895  
DF = 2, 205 F = .7750518962276994  
(NS)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 79.9895  
SUM OF SQUARES, MODEL 7 = 83.10422  
DF = 2, 207 F = 4.030197963482707  
(p < .05)

## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

GRADE = 3  
TEST = LOCATION  
NUMBER OF CASES = 296

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 88.3566

SUM OF SQUARES, MODEL 5 = 88.55997

DF = 3, 287

F = .2201955484932624

(NS)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 88.3566

SUM OF SQUARES, MODEL 2 = 88.54319

DF = 2, 287

F = .3030409160153271

(NS)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 88.54319

SUM OF SQUARES, MODEL 3 = 88.83716

DF = 2, 289

F = .4797507860288293

(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 88.3566

SUM OF SQUARES, MODEL 3 = 88.83716

DF = 4, 287

F = .390238872930827

(NS)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 88.83716

SUM OF SQUARES, MODEL 4 = 90.12199

DF = 2, 291

F = 2.104330721513387

(NS)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 88.55997

SUM OF SQUARES, MODEL 6 = 88.84776

DF = 2, 290

F = .471201040379761

(NS)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 88.84776

SUM OF SQUARES, MODEL 7 = 90.17152

DF = 2, 292

F = 2.175282303121654

(NS)

## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

GRADE = 4  
TEST = LOCATION  
NUMBER OF CASES = 218

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 76.13449  
SUM OF SQUARES, MODEL 5 = 76.71279  
DF = 3, 209      F = .5291719079399264  
(NS)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 76.13449  
SUM OF SQUARES, MODEL 2 = 76.68507  
DF = 2, 209      F = .75571019126811  
(NS)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 76.68507  
SUM OF SQUARES, MODEL 3 = 77.38854  
DF = 2, 211      F = .9678035763676024  
(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 76.13449  
SUM OF SQUARES, MODEL 3 = 77.38854  
DF = 4, 209      F = .8606363883175677  
(NS)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 77.38854  
SUM OF SQUARES, MODEL 4 = 77.78826  
DF = 2, 213      F = .5500837720933879  
(NS)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 76.71279  
SUM OF SQUARES, MODEL 6 = 77.47752  
DF = 2, 212      F = 1.056686635957321  
(NS)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 77.47752  
SUM OF SQUARES, MODEL 7 = 77.91781  
DF = 2, 214      F = .6080606348783481  
(NS)

## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

GRADE = 5  
TEST = LOCATION  
NUMBER OF CASES = 237

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 102.04024

SUM OF SQUARES, MODEL 5 = 103.02462

DF = 3, 228

F = .7331703649462211

(NS)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 102.04024

SUM OF SQUARES, MODEL 2 = 102.23403

DF = 2, 228

F = .2165034108112661

(NS)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 102.23403

SUM OF SQUARES, MODEL 3 = 103.38368

DF = 2, 230

F = 1.293206870549852

(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 102.04024

SUM OF SQUARES, MODEL 3 = 103.38368

DF = 4, 228

F = .7504498225405973

(NS)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 103.38368

SUM OF SQUARES, MODEL 4 = 106.70581

DF = 2, 232

F = 3.727542683719525

(p &lt; .05)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 103.02462

SUM OF SQUARES, MODEL 6 = 104.21903

DF = 2, 231

F = 1.33904259972034

(NS)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 104.21903

SUM OF SQUARES, MODEL 7 = 107.41505

DF = 2, 233

F = 3.572632848338733

(p &lt; .05)

## F VALUES FOR SPSS REGRESSION RESULTS--THREE GROUP CASE

GRADE = 6  
TEST = LOCATION  
NUMBER OF CASES = 189

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 83.83424

SUM OF SQUARES, MODEL 5 = 85.81778

DF = 3, 180

F = 1.419615660617906

(NS)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 83.83424

SUM OF SQUARES, MODEL 2 = 85.56679

DF = 2, 180

F = 1.859973919963967

(NS)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 85.56679

SUM OF SQUARES, MODEL 3 = 88.33122

DF = 2, 182

F = 2.939962221324417

(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 83.83424

SUM OF SQUARES, MODEL 3 = 88.33122

DF = 4, 180

F = 2.413859778534403

(NS)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 88.33122

SUM OF SQUARES, MODEL 4 = 88.34713

DF = 2, 184

F = .01657081154319294

(NS)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 85.81778

SUM OF SQUARES, MODEL 6 = 90.69877

DF = 2, 183

F = 5.204173132886913

(p &lt; .01)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 90.69877

SUM OF SQUARES, MODEL 7 = 90.73973

DF = 2, 185

F = .04182443708994068

(NS)

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

GRADE = 2  
TEST = LOC 2 1 VS 2  
NUMBER OF CASES = 196

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 67.00491

SUM OF SQUARES, MODEL 5 = 75.10566

DF = 2, 190

F = 11.4852963760417

(p &lt; .001)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 67.00491

SUM OF SQUARES, MODEL 2 = 69.76536

DF = 1, 190

F = 7.827568158811055

(p &lt; .01)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 69.76536

SUM OF SQUARES, MODEL 3 = 70.91703

DF = 1, 191

F = 3.152982655002423

(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 67.00491

SUM OF SQUARES, MODEL 3 = 70.91703

DF = 2, 190

F = 5.546629344028671

(p &lt; .01)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 70.91703

SUM OF SQUARES, MODEL 4 = 73.91546

DF = 1, 192

F = 8.11791695168283

(p &lt; .01)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 75.10566

SUM OF SQUARES, MODEL 6 = 75.55609

DF = 1, 192

F = 1.151478596952615

(NS)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 75.55609

SUM OF SQUARES, MODEL 7 = 78.64309

DF = 1, 193

F = 7.88541333994387

(p &lt; .01)

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

GRADE = 2  
TEST = LOCATION 1 VS. 3  
NUMBER OF CASES = 125

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 44.98838

SUM OF SQUARES, MODEL 5 = 53.16758

DF = 2, 119

F = 10.81751332232901

(p &lt; .001)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 44.98838

SUM OF SQUARES, MODEL 2 = 45.86843

DF = 1, 119

F = 2.327844434496201

(NS)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 45.86843

SUM OF SQUARES, MODEL 3 = 46.56782

DF = 1, 120

F = 1.829729075095873

(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 44.98838

SUM OF SQUARES, MODEL 3 = 46.56782

DF = 2, 119

F = 2.088910069666878

(NS)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 46.56782

SUM OF SQUARES, MODEL 4 = 46.82608

DF = 1, 121

F = .6710526711364198

(NS)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 53.16758

SUM OF SQUARES, MODEL 6 = 53.46828

DF = 1, 121

F = .6843399680782933

(NS)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 53.46828

SUM OF SQUARES, MODEL 7 = 53.5042

DF = 1, 122

F = .08195962166727221

(NS)



## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

GRADE = 2  
TEST = LOCATION 2 VS. 3  
NUMBER OF CASES = 101

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 30.4265

SUM OF SQUARES, MODEL 5 = 30.50516

DF = 2, 95

F = .1227992046406904

(NS)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 30.4265

SUM OF SQUARES, MODEL 2 = 30.48458

DF = 1, 95

F = .1813419223374372

(NS)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 30.48458

SUM OF SQUARES, MODEL 3 = 30.4985

DF = 1, 96

F = .04383593278962584

(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 30.4265

SUM OF SQUARES, MODEL 3 = 30.4985

DF = 2, 95

F = .1124020179777498

(NS)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 30.4985

SUM OF SQUARES, MODEL 4 = 31.04566

DF = 1, 97

F = 1.740233781989276

(NS)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 30.50516

SUM OF SQUARES, MODEL 6 = 30.51992

DF = 1, 97

F = .04693369908566534

(NS)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 30.51992

SUM OF SQUARES, MODEL 7 = 31.11126

DF = 1, 98

F = 1.898803142341134

(NS)

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

GRADE = 5  
TEST = LOCATION 1 VS. 2  
NUMBER OF CASES = 209

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 77.6247

SUM OF SQUARES, MODEL 5 = 78.5768

DF = 2, 203 F = 1.244940721187972

(NS)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 77.6247

SUM OF SQUARES, MODEL 2 = 77.63917

DF = 1, 203 F = .03784117684190549

(NS)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 77.63917

SUM OF SQUARES, MODEL 3 = 78.11898

DF = 1, 204 F = 1.260719814495695

(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 77.6247

SUM OF SQUARES, MODEL 3 = 78.11898

DF = 2, 203 F = .6463074253427041

(NS)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 78.11898

SUM OF SQUARES, MODEL 4 = 78.29659

DF = 1, 205 F = .4660845546114438

(NS)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 78.5768

SUM OF SQUARES, MODEL 6 = 78.61459

DF = 1, 205 F = .09859080542857721

(NS)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 78.61459

SUM OF SQUARES, MODEL 7 = 78.80269

DF = 1, 206 F = .4928932403005517

(NS)

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

GRADE = 5  
TEST = LOCATION 1 VS. 3  
NUMBER OF CASES = 138

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 64.61866  
SUM OF SQUARES, MODEL 5 = 64.95777  
DF = 2, 132 F = .3463590857501513  
(NS)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 64.61866  
SUM OF SQUARES, MODEL 2 = 64.80601  
DF = 1, 132 F = .3827098859679203  
(NS)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 64.80601  
SUM OF SQUARES, MODEL 3 = 65.7093  
DF = 1, 133 F = 1.853802911180611  
(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 64.61866  
SUM OF SQUARES, MODEL 3 = 65.7093  
DF = 2, 132 F = 1.113954390264357  
(NS)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 65.7093  
SUM OF SQUARES, MODEL 4 = 68.12549  
DF = 1, 134 F = 4.927300397356235  
(p < .05)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 64.95777  
SUM OF SQUARES, MODEL 6 = 66.13722  
DF = 1, 134 F = 2.43306228030919  
(NS)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 66.13722  
SUM OF SQUARES, MODEL 7 = 68.5279  
DF = 1, 135 F = 4.879881555348108  
(p < .05)

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

GRADE = 5  
TEST = LOCATION \*2 VS. 3  
NUMBER OF CASES = 127

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 61.83713

SUM OF SQUARES, MODEL 5 = 62.51467

DF = 2, 121

F = .6628892705725513

(NS)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 61.83713

SUM OF SQUARES, MODEL 2 = 62.00006

DF = 1, 121

F = .3188137935897112

(NS)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 62.00006

SUM OF SQUARES, MODEL 3 = 62.25038

DF = 1, 122

F = .4925646846148202

(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 61.83713

SUM OF SQUARES, MODEL 3 = 62.25038

DF = 2, 121

F = .404314123246018

(NS)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 62.25038

SUM OF SQUARES, MODEL 4 = 65.35283

DF = 1, 123

F = 6.130104747954954

(p &lt; .05)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 62.51467

SUM OF SQUARES, MODEL 6 = 63.46252

DF = 1, 123

F = 1.864931063380803

(NS)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 63.46252

SUM OF SQUARES, MODEL 7 = 66.49232

DF = 1, 124

F = 5.919954013802162

(p &lt; .05)

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

GRADE = 6  
TEST = LOCATION 1 VS. 2  
NUMBER OF CASES = 155

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 70.37618

SUM OF SQUARES, MODEL 5 = 72.2138

DF = 2, 149

F = 1.945298679183778

(NS)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 70.37618

SUM OF SQUARES, MODEL 2 = 70.43421

DF = 1, 149

F = .1228607463491171

(NS)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 70.43421

SUM OF SQUARES, MODEL 3 = 70.85683

DF = 1, 150

F = .9000313909959346

(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 70.37618

SUM OF SQUARES, MODEL 3 = 70.85683

DF = 2, 149

F = .5088145591306574

(NS)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 70.85683

SUM OF SQUARES, MODEL 4 = 70.88367

DF = 1, 151

F = .0571975912554936

(NS)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 72.2138

SUM OF SQUARES, MODEL 6 = 72.82631

DF = 1, 151

F = 1.280766418606974

(NS)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 72.82631

SUM OF SQUARES, MODEL 7 = 72.83891

DF = 1, 152

F = .02629818811360697

(NS)

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

GRADE = 6  
TEST = LOCATION 1 VS. 3,  
NUMBER OF CASES = 115

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 48.95193

SUM OF SQUARES, MODEL 5 = 50.47026

DF = 2, 109

F = 1.6904131256929

(NS)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 48.95193

SUM OF SQUARES, MODEL 2 = 50.40568

DF = 1, 109

F = 3.237027630984109

(p &lt; .05)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 50.40568

SUM OF SQUARES, MODEL 3 = 51.69837

DF = 1, 110

F = 2.821029296698309

(NS)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 48.95193

SUM OF SQUARES, MODEL 3 = 51.69837

DF = 2, 109

F = 3.057713556952708

(NS)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 51.69837

SUM OF SQUARES, MODEL 4 = 51.70176

DF = 1, 111

F = 7.278566036028791D-03

(NS)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 50.47026

SUM OF SQUARES, MODEL 6 = 52.53419

DF = 1, 111

F = 4.539232213188518

(p &lt; .05)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 52.53419

SUM OF SQUARES, MODEL 7 = 52.57661

DF = 1, 112

F = .09043710391271073

(NS)

## F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

GRADE = 6  
TEST = LOCATION 2 VS. 3  
NUMBER OF CASES = 108

## MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 48.34036

DF = 2, 102

F = .6447748837617275

SUM OF SQUARES, MODEL 5 = 48.95151

(NS)

## MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 48.34036

DF = 1, 102

F = 1.285815000136532

SUM OF SQUARES, MODEL 2 = 48.94974

(NS)

## MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 48.94974

DF = 1, 103

F = 7.377532546648869

SUM OF SQUARES, MODEL 3 = 52.45584

(p &lt; .01)

## MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 48.34036

DF = 2, 102

F = 4.341909741673417

SUM OF SQUARES, MODEL 3 = 52.45584

(p &lt; .05)

## MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 52.45584

DF = 1, 104

F = 7.514129980571125D-03

SUM OF SQUARES, MODEL 4 = 52.45963

(NS)

## MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 48.95151

DF = 1, 104

F = 10.22761177336511

SUM OF SQUARES, MODEL 6 = 53.76552

(p &lt; .01)

## MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 53.76552

DF = 1, 105

F = .08547950433660716

SUM OF SQUARES, MODEL 7 = 53.80929

(NS)

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F-TESTS FOR AT-HOME ANALYSES

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F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33.

GRADE = 2  
TEST = AT HOME LONGITUDINAL  
NUMBER OF CASES = 54

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MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 22.44564

DF = 2, 48

F = .0343550016840687  
NS

SUM OF SQUARES, MODEL 5 = 22.47777

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 22.44564

DF = 1, 48

F = .02369457943725417  
NS

SUM OF SQUARES, MODEL 2 = 22.45672.

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 22.45672

DF = 1, 49

F = 4.80034484109826D-03  
NS

SUM OF SQUARES, MODEL 3 = 22.45892

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 22.44564

DF = 2, 48

F = .01419963966275851  
NS

SUM OF SQUARES, MODEL 3 = 22.45892

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 22.45892

DF = 1, 50

F = 1.013249969277241  
NS

SUM OF SQUARES, MODEL 4 = 22.91405

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 22.47777

DF = 1, 50

F = .02151014090810674  
NS

SUM OF SQUARES, MODEL 6 = 22.48744

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 22.48744

DF = 1, 51

F = 1.050506416026013  
NS

SUM OF SQUARES, MODEL 7 = 22.95064

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81.33

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

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GRADE = 3

TEST = AT HOME LONGITUDINAL

NUMBER OF CASES = 106

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 57.10021

DF = 2, 100

F = 4.482698049621882

SUM OF SQUARES, MODEL 5 = 62.21947

p < .05

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 57.10021

DF = 1, 100

F = 1.299679983663805

SUM OF SQUARES, MODEL 2 = 57.84233

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 57.84233

DF = 1, 101

F = .1328627321893856

SUM OF SQUARES, MODEL 3 = 57.91842

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 57.10021

DF = 2, 100

F = .716468468329625

SUM OF SQUARES, MODEL 3 = 57.91842

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 57.91842

DF = 1, 102

F = .1913080501850703

SUM OF SQUARES, MODEL 4 = 58.02705

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 62.21947

DF = 1, 102

F = .3547243330745213

SUM OF SQUARES, MODEL 6 = 62.43585

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 62.43585

DF = 1, 103

F = .1519532448104733

SUM OF SQUARES, MODEL 7 = 62.52796

NS

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F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

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GRADE = 4

TEST = AT HOME LONGITUDINAL

NUMBER OF CASES = 59

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 33.59265

SUM OF SQUARES, MODEL 5 = 34.34794

DF = 2, 53

F = .595820365466851  
NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 33.59265

SUM OF SQUARES, MODEL 2 = 34.31968

DF = 1, 53

F = 1.147054191914005  
NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 34.31968

SUM OF SQUARES, MODEL 3 = 34.34352

DF = 1, 54

F = .03751083926190432  
NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 33.59265

SUM OF SQUARES, MODEL 3 = 34.34352

DF = 2, 53

F = .5923335908301369  
NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 34.34352

SUM OF SQUARES, MODEL 4 = 34.34354

DF = 1, 55

F = 3.202933187999385D-05  
NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 34.34794

SUM OF SQUARES, MODEL 6 = 34.40143

DF = 1, 55

F = .08565142480160388  
NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 34.40143

SUM OF SQUARES, MODEL 7 = 34.40144

DF = 1, 56

F = 1.627839307925681D-05

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NS

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

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81.33

GRADE = 5  
TEST = AT HOME LONGITUDINAL  
NUMBER OF CASES = 35

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 13.57046

DF = 2, 29

F = .3679263635867908

SUM OF SQUARES, MODEL 5 = 13.9148

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 13.57046

DF = 1, 29

F = .734485050617297

SUM OF SQUARES, MODEL 2 = 13.91416

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 13.91416

DF = 1, 30

F = .8292272045168367

SUM OF SQUARES, MODEL 3 = 14.29876

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 13.57046

DF = 2, 29

F = .7781865905798327

SUM OF SQUARES, MODEL 3 = 14.29876

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 14.29876

DF = 1, 31

F = 2.747250111198454

SUM OF SQUARES, MODEL 4 = 15.56593

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 13.9148

DF = 1, 31

F = .9348032310920746

SUM OF SQUARES, MODEL 6 = 14.3344

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 14.3344

DF = 1, 32

F = 2.749815827659337

SUM OF SQUARES, MODEL 7 = 15.56618

NS

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F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33  
GRADE = 6  
TEST = AT HOME LONGITUDINAL  
NUMBER OF CASES = 39

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MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 17.72313	DF = 2, 33	F = .06825064195771267
SUM OF SQUARES, MODEL 5 = 17.79644		NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 17.72313	DF = 1, 33	F = .07004744647249018
SUM OF SQUARES, MODEL 2 = 17.76075		NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 17.76075	DF = 1, 34	F = 1.166862885057861
SUM OF SQUARES, MODEL 3 = 18.37029		NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 17.72313	DF = 2, 33	F = .6024974143957637
SUM OF SQUARES, MODEL 3 = 18.37029		NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 18.37029	DF = 1, 35	F = .1356157142864928
SUM OF SQUARES, MODEL 4 = 18.44147		NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 17.79644	DF = 1, 35	F = 1.166755823074727
SUM OF SQUARES, MODEL 6 = 18.3897		NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 18.3897	DF = 1, 36	F = .1241912592375087
SUM OF SQUARES, MODEL 7 = 18.45314		NS

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F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

81.33

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GRADE = 7  
TEST = AT HOME LONGITUDINAL  
NUMBER OF CASES = 50

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 30.45555

DF = 2, 44

F = .6653985890913149

SUM OF SQUARES, MODEL 5 = 31.37669

NS

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 30.45555

DF = 1, 44

F = .03499132342052553

SUM OF SQUARES, MODEL 2 = 30.47977

NS

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 30.47977

DF = 1, 45

F = .03333686573094226

SUM OF SQUARES, MODEL 3 = 30.50235

NS

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 30.45555

DF = 2, 44

F = .03380664607928585

SUM OF SQUARES, MODEL 3 = 30.50235

NS

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 30.50235

DF = 1, 46

F = .2263327251834701

SUM OF SQUARES, MODEL 4 = 30.65243

NS

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 31.37669

DF = 1, 46

F = 8.209916342356487D-04

SUM OF SQUARES, MODEL 6 = 31.37725

NS

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 31.37725

DF = 1, 47

F = .1575791377510776

SUM OF SQUARES, MODEL 7 = 31.48245

NS

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## SPECIAL CIRCUMSTANCES CODES AT BECKER

At the end of 1980-81, scores for two first-grade classes at Becker showed exceptionally high gains, even when compared to the high gains for schoolwide projects in general. In the fall of 1981, second grade students at Allison and Becker were retested in reading with the same level and form that students had taken the previous spring.

On the average, Allison students had gained +2.85 raw score points over the summer. Becker students in classes other than the two that were previously mentioned gained an average of +1.66 raw score points. The school average gain dropped to a -5.18 when the two "unusual" classes were included, however. Mean gains for those two classes were -19.90 and -24.56 raw score points.

So that gains for Becker students at second grade this year would not be underestimated, any student at Becker that lost more than five raw score points over the summer was given a code of "special circumstances" on their 1981 Reading Total score. (This procedure affected very few students in other classes, but almost all students in the two classes with unusual scores were affected.) The 1981 Reading Total score served as the pretest score in assessing gains for the remaining students.

81.33

Attachment B-11

MEASUREMENT OF ACHIEVEMENT OBJECTIVES FOR THE REGULAR TITLE I PROGRAM  
(Students who were served on at least one service report.)

(Page 1 of 4)



Percent	Expected Percent	Of Students Gaining
35	17	$\geq$ 10 percentile points
4	7	7-9 percentile points
11	7	4-6 percentile points
16	13	1-3 percentile points
34	56	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE K, GAIN IN READING TOTAL PERCENTILE. (Regular Title I Program)

Percent	Expected Percent	Of Students Scoring
17	18	>1.9 grade equivalent
8	8	1.7 to 1.8 grade equivalent
17	17	1.4 to 1.6 grade equivalent
21	21	1.1 to 1.3 grade equivalent
37	36	$\leq$ 1.0 grade equivalent

MEASUREMENT OF READING COMPONENT OBJECTIVE AT GRADE 1, READING TOTAL GRADE EQUIVALENT. (Regular Title I Program)

Percent	Expected Percent	Of Students Gaining
36	19	$\geq$ 10 percentile points
3	4	7-9 percentile points
4	5	4-6 percentile points
7	6	1-3 percentile points
50	66	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 2, GAIN IN READING TOTAL PERCENTILE. (Regular Title I Program)

Percent	Expected Percent	Of Students Gaining
40	31	$\geq$ 10 percentile points
9	7	7-9 percentile points
12	11	4-6 percentile points
10	13	1-3 percentile points
30	38	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 3, GAIN IN  
READING TOTAL PERCENTILE. (Regular Title I Program)

Percent	Expected Percent	Of Students Gaining
17	17	$\geq$ 10 percentile points
6	7	7-9 percentile points
7	7	4-6 percentile points
15	13	1-3 percentile points
56	56	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 4, GAIN IN  
READING TOTAL PERCENTILE. (Regular Title I Program)

Percent	Expected Percent	Of Students Gaining
23	24	$\geq$ 10 percentile points
7	7	7-9 percentile points
11	11	4-6 percentile points
14	16	1-3 percentile points
46	42	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 5, GAIN IN  
READING TOTAL PERCENTILE. (Regular Title I Program)

Percent	Expected Percent	Of Students Gaining
18	21	$\geq$ 10 percentile points
11	8	7-9 percentile points
12	13	4-6 percentile points
12	12	1-3 percentile points
40	46	$\leq$ 0 percentile points

MEASUREMENT OF THE READING COMPONENT OBJECTIVE AT GRADE 6, GAIN IN  
READING TOTAL PERCENTILE. (Regular Title I Program)

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ESEA Title I

Appendix C

TITLE I SERVICE REPORTS

## Instrument Description: Title I Service Reports

Brief description of the instrument:

Three types of Service Reports were used, depending on the grade level and type of institution which was being surveyed: a) K-6 students in AISD Title I schools (except for Allison and Becker) were counted through a computer-generated roster on which schools were asked to indicate the teacher code for each student, whether or not the student was served by the Title I program, and if served, whether the student was served in the classroom, lab or both; b) nonpublic and neglected/delinquent institutions were asked to indicate which students were served by Title I and also each student's test scores (nonpublic) or type of instructional program (N&D); and c) prekindergarten students were counted via the Early Childhood Rosters.

To whom was the instrument administered?

Information was collected from each Title I institution: 26 AISD schools, 3 nonpublic schools, and 4 N&D schools. (Since all students at Allison and Becker were served by the Title I program, it was not necessary to mail those schools a survey. Student Master File records were used to determine counts for Allison and Becker.)

How many times was the instrument administered?

Twice for K-6 students in AISD schools; once for nonpublic and neglected/delinquent institutions, and prekindergarten students.

When was the instrument administered?

In November, 1981 for all schools and again in March, 1982 for K-6 students in AISD schools.

Where was the instrument administered?

Report forms were sent by ORE to the school, where they were completed and returned.

Who administered the instrument?

The reports were completed by various school staff members--usually the secretary and Title I contact person.

What training did the administrators have?

Instructions for completing the reports were provided.

Was the instrument administered under standardized conditions?

No.

Were there problems with the instrument or the administration that might affect the validity of the data?

The personnel completing the forms were often employed by the program being evaluated.

Who developed the instrument?

ORE staff members.

What reliability and validity data are available on the instrument?

None.

Are there norm data available for interpreting the results?

No.

## TITLE I SERVICE REPORTS

## Purpose

Information from three service reports--the AISD Title I Service Report, the Title I Service Report for nonpublic and N&D institutions and the Title I Early Childhood Rosters--was used to answer the following decision and evaluation questions from the Title I Evaluation Design for 1981-82.

Decision Question D1: Should the Title I Reading Improvement Program be modified? If so, how?

Evaluation Question D1-2: How many students were served at each grade in the following ways: a) in the classroom only, b) in the reading center only, and c) in both the classroom and reading center?

Evaluation Question D1-3: Did students served in the three various locations (classrooms, lab, or both) differ in achievement gains?

Evaluation Question D1-4: Considering instructional arrangement, was the participant-to-instructor ratio equitable across campuses?

Information Need I5: How many students were served by Title I at each grade in public and nonpublic schools?

Information Need I6: How many students were served in N&D institutions?

## Procedure

The procedures used to gather Title I service information are described below, by instrument.

Title I Early Childhood Rosters

Early Childhood Rosters were sent to the teachers of the Title I pre-kindergarten classes in the fall before testing with the Peabody Picture Vocabulary Test (PPVT). In the spring, information was not collected using the Rosters, but was instead collected at the time each child was tested with the PPVT. Attachment C-1 contains a copy of the instructions and forms sent to the teachers with the Early Childhood Rosters.

### Service Reports for Nonpublic Schools and N&D Institutions

Service information was requested from nonpublic schools and N&D institutions with Title I programs in the fall. The forms, memos, and procedures used to collect the information can be found in Attachment C-2.

### Title I Service Reports

The Title I Service Report for K-6 students was sent to AFSD public schools twice: once in November and once in March. Attachment C-3 is a copy of the memo and instructions which accompanied the first report. Attachment C-4 is a copy of the report format. The second service report was sent to the schools in March. Attachment C-5 is a copy of the memo and instructions which accompanied the form. Attachment C-6 is a copy of the report format.

Information provided by the two reports was used to build a Title I Service File. Any student who was served by Title I according to either Service Report was included on the Service File. However, students who were listed as served on both Service Reports were given a different code than those who were only served according to one of the two reports. The Service File also contains information about where each student received service (classroom, lab, or both locations.)

### Results

Results are presented by evaluation question or information need.

Evaluation Question D1-2: How many students were served at each grade in the following ways: a) in the classroom only, b) in the reading center (lab) only, and c) in both the classroom and reading center?

Figure C-1 and C-2 show the number of students in each grade who were served in each location, according to Fall and Spring Service Reports. For both Fall and Spring Reports, the majority of students at each grade level were receiving service in the classroom, or in a combination of classroom and lab instruction.

Evaluation Question D1-3: Did students served in the three various locations (classroom, lab, or both) differ in achievement gains?

This question is addressed in Appendix B, which contains data from the Iowa Tests of Basic Skills (ITBS). Generally, the data indicate that students served in both class and lab outgained those served in only one location. However, higher-than-expected achievement gains in the Title I program may have been due to the increased percentage of students served in the classroom.

Evaluation Question D1-4: Considering instructional arrangement, was the participant-to-instructor ratio equitable across campuses?

Figures C-3 through C-5 show the number of students served at each school, along with the location of service, separately for the fall, spring, and two semesters combined. It was clear that certain Title I schools had a large turnover in the Title I students served at their campus during the year. Rather than arbitrarily choose to use data from either the Fall or Spring Service Report (in determining the number of students served per teacher at each campus), the average of the data on the two Service Reports was calculated to estimate the average number of students being served at each campus throughout the year. Figure C-6 shows this average for each Title I school (except for Allison and Becker), along with the number of Title I teachers at each school. The third column in Figure C-6 is the number of students served per Title I teacher for each school.

The data indicate a wide variation between schools in the number of students being served per Title I teacher. It was unclear whether this variation occurred due to problems in assigning staff, a choice by some schools to serve fewer students per teacher, or other factors. If the variation in number of students served per teacher was due in part to differences between projected and actual enrollments, a correlation should be found between the number of students served per teacher and the difference between actual and projected enrollments. This correlation was calculated and found to be nonsignificant and very small ( $r = - .1186$ ).

Another possible explanation for the wide variation in the number of students served per teacher is that serving students in the classroom allowed a smaller number of students to be served by each teacher. Thus, the percentage of students at each school served totally in the lab should be positively related to the number of students served per teacher. This correlation ( $r = - .0034$ ) was also found to be small and nonsignificant.

It remains unclear what factors produce the wide variations in the number of students served per teacher. If the question remains of importance to project staff, future evaluations might address issues of selection and scheduling at various schools, to determine how such procedures might affect the number of students served.

Information Need 15: How many students were served by Title I at each grade in public and nonpublic schools?

Figure C-7 indicates the number of K-6 AISD students served by the Title I program, separately for each grade level. Figure C-8 indicates the number of Title I students served in prekindergarten at the time of the fall PPVT testing. (Additional information about Title I prekindergarten students can be found in Appendix A on the PPVT). Figure C-9 gives the number of students served by Title I at each grade in nonpublic schools. In 1980-81, 97 nonpublic school students were served by Title I, versus 87 for 1981-82.

Information Need 16: How many students were served in N&D institutions?

Figure C-10 provides the number of students served in N&D institutions at the time of the Fall Service Report. Due to large turnovers in the populations of these facilities, the number of students being served at each institution probably varied considerably throughout the year.



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There were relatively few students served by Title I in N&D institutions for 1981-82, when compared with the previous year: 44 students were served in 82-82, versus 586 served in 80-81.

## COUNTS FROM THE FALL SERVICE FILE (81-82):

Grade	# Served in Lab	# Served in Class	# Served in Both
K	136	417	47
1	293	532	58
2	211	389	29
3	234	404	45
4	200	239	38
5	148	269	53
6	116	254	45
TOTAL	1338	2504	315

Total N = 4157

Figure C-1. AISD STUDENTS SERVED BY TITLE I IN  
THE FALL OF 1981, ACCORDING TO  
LOCATION OF SERVICE.

## COUNTS FROM THE SPRING SERVICE FILE (81-82):

Grade	# Served in Lab	# Served in Class	# Served in Both
K	194	429	63
1	350	542	70
2	253	367	28
3	257	399	45
4	207	207	79
5	174	229	72
6	130	168	104
TOTAL	1565	2341	461

Total N = 4367

Figure C-2. AISD STUDENTS SERVED BY TITLE I IN  
THE SPRING OF 1982, ACCORDING TO  
LOCATION OF SERVICE.

## COUNTS FROM THE FALL 1981-1982 TITLE I SERVICE REPORT:

SCHOOL	# SERVED IN LAB ONLY	# SERVED IN CLASS ONLY	#SERVED IN BOTH CLASS AND LAB	TOTAL SERVED
ALLISON	0	425	0	426
BECKER	0	712	0	712
BLACKSHEAR	99	0	24	123
BROCKE	46	25	6	78
BROWN	0	78	0	78
CAMPBELL	5	163	2	170
DAWSON	12	166	0	178
GOVALLE	194	0	17	211
HARRIS	44	142	10	196
MAPLEWOOD	142	0	0	142
METZ	112	0	0	112
OAK SPRINGS	65	131	25	221
ORTEGA	24	28	22	74
SANCHEZ	0	127	0	127
PECAN SPRINGS	34	49	0	83
RIDGETOP	2	40	0	42
ROSEDALE	40	0	0	40
ROSEWOOD	0	0	38	38
SIMS	0	47	0	47
TRAVIS HEIGHTS	21	15	81	117
WALNUT CREEK	4	75	0	80
ALLAN	63	66	0	129
WOOTEN	74	28	0	102
ZAVALA	63	34	1	98
NORMAN	77	0	3	80
WINN	176	0	0	176
LINDER	0	0	86	86
LANGFORD	41	150	0	191
TOTAL	1333	2504	315	4157

Figure C-3. NUMBER OF STUDENTS SERVED BY TITLE I AT EACH SCHOOL, BY LOCATION OF SERVICE, BASED ON THE FALL SERVICE REPORT.

## COUNTS FROM THE SPRING 1981-1982 TITLE I SERVICE REPORT:

SCHOOL	# SERVED IN LAB ONLY	# SERVED IN CLASS ONLY	#SERVED IN BOTH CLASS AND LAB	TOTAL SERVED
ALLISON	0	458	0	458
BECKER	0	767	0	767
BLACKSHEAF	73	0	48	121
BRADKE	50	40	5	95
BROWN	1	88	0	89
CAMPBELL	6	81	78	165
DAWSON	49	159	0	207
DEVALLE	192	0	13	205
HARRIS	72	22	38	132
MAPLEWOOD	125	0	1	126
METZ	140	4	0	144
OAK SPRINGS	73	128	24	225
ORTEGA	23	24	33	80
SANCHEZ	0	129	0	129
PECAN SPRINGS	55	31	1	87
RIDGETOP	20	22	0	42
ROSEDALE	68	9	3	80
ROSEWOOD	0	0	41	41
SIMS	0	49	0	49
TRAVIS HEIGHTS	21	21	84	126
WALNUT CREEK	4	74	0	78
ALLAN	72	70	0	142
WORTEN	81	13	7	101
ZAVALA	76	40	0	116
NORMAN	84	0	3	87
WINN	174	3	0	177
LINDER	0	1	82	83
LANGFORD	107	108	0	215
TOTAL	1565	2341	461	4367

Figure C-4. NUMBER OF STUDENTS SERVED BY TITLE I AT EACH SCHOOL,  
BY LOCATION OF SERVICE, BASED ON THE SPRING SERVICE  
REPORT.

COUNTS FROM THE COMBINED 1981-1982 TITLE I SERVICE REPORT:

Number served the same on both reports.

SCHOOL *	# SERVED IN LAB ONLY	# SERVED IN CLASS ONLY	#SERVED IN BOTH CLASS AND LAB	# SERVED DIFFEENTLY FALL & SPRING	# SERVED ON ONE REPORT	TOTAL SERVED
ALLISON	0	406	0	1	62	469
BECKER	0	671	0	3	120	794
BLACKSHEAR	64	0	22	27	19	132
BROOKE	44	25	4	3	23	99
BROWN	1	73	0	1	22	97
CAMPBELL	3	72	3	67	41	186
DAWSON	15	140	0	0	70	225
GOVALLE	175	0	13	4	26	218
HARRIS	34	18	2	67	87	208
MAPLEWOOD	120	0	1	0	21	142
METZ	67	4	0	2	57	160
OAK SPRINGS	65	115	21	13	41	245
ORTEGA	23	23	17	1	23	87
SANCHEZ	0	120	0	0	15	135
PECAN SPRINGS	33	26	1	17	16	93
RIDGETOP	4	22	0	16	2	44
ROSEDALE	35	5	0	0	43	83
ROSEWOOD	0	0	33	0	12	45
SIMS	0	39	0	1	14	54
TRAVIS HEIGHTS	19	20	67	2	35	143
WALNUT CREEK	4	73	0	0	6	83
ALLAN	61	60	0	1	30	152
WOODEN	61	13	0	18	21	113
ZAVALA	59	30	0	7	25	121
BERMAN	76	0	3	1	10	90
WINN	155	3	0	2	32	192
LINDER	0	1	70	0	28	99
LANGFORD	31	74	0	62	73	240
TOTAL	1169	2033	257	316	974	4749

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\*\*Served in a schoolwide project on one report, but regular Title I on the other.

\* SPRING SCHOOL, UNLESS SERVED ONLY ON FALL SERVICE REPORT.

Figure C-5. LOCATION OF TITLE I SERVICE AND NUMBER OF STUDENTS SERVED.

B... ON... IBIN... FALL... AND SPRING REPORTS.

SCHOOL	AVERAGE NUMBER OF STUDENTS SERVED*	NUMBER OF TITLE I TEACHERS	NUMBER OF STUDENTS SERVED PER TEACHER	PROJECTED ENROLLMENT*	ACTUAL ENROLLMENT (AS OF 3RD SIX WEEKS)	ACTUAL - PROJECTED	PERCENT OF STUDENTS SERVED ONLY IN LAB (SPRING)
BLACKSHEAR	122	3	40.7	442	455	13	60.3
BROOKE	87	2	43.5	409	365	-44	52.6
BROWN	84	2	42.0	467	552	85	1.1
CAMPBELL	168	5	33.6	461	385	-76	3.6
DAWSON	193	5	38.6	620	673	53	23.2
GOVALLE	208	5	41.6	644	637	-7	93.7
HARRIS	164	3	54.7	535	571	36	54.5
MAPLEWOOD	134	3	44.7	397	424	27	99.2
METZ	128	3	42.7	436	429	-7	97.2
OAK SPRINGS	223	5	44.6	494	512	18	32.4
ORTEGA	77	2	38.5	280	276	-4	28.8
SANCHEZ	128	3	42.7	384	377	-7	0
PECAN SPRINGS	85	2	42.5	338	352	14	63.2
RIDGETOP	42	1	42.0	259	241	-18	47.6
ROSEDALE	60	2	30.0	218	245	27	85.0
ROSEWOOD	40	1	40.0	140	121	-19	0
SIMS	48	1	48.0	248	228	-20	0
TRAVIS HEIGHTS	122	3	40.7	641	686	45	16.7
WALNUT CREEK	79	2	39.5	283	280	-3	5.1
ALLAN	136	4	34.0	527	671	144	50.7
WOOTEN	102	3	34.0	396	447	51	80.2
ZAVALA	107	3	35.7	430	403	-27	65.5
NORMAN	84	2	42.0	250	236	-14	96.6
WINN	177	4	44.3	569	579	10	98.3
LINDER	85	2	42.5	563	501	-62	0
LANGFORD	203	5	40.6	843	881	38	49.8

\*From  
Fall and Spring  
Service Reports.

\*From  
Compensatory  
Planning  
Sheet 81-82

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Figure C-6. NUMBER OF TITLE I STUDENTS SERVED, NUMBER SERVED PER TEACHER, ENROLLMENT DATA, AND PERCENTAGE OF STUDENTS SERVED ONLY IN THE READING LAB (by campus.)

## COUNTS FROM THE COMBINED 1981-1982 TITLE I SERVICE FILE:

Grade	# Served Fall	# Served Spring	# Served on Either*
K	600	686	720
1	383	962	1032
2	629	648	705
3	683	701	752
4	477	493	534
5	470	475	541
6	415	402	465
TOTAL	4157	4367	4749

\* On one or both service reports.

Figure C-7. NUMBER OF K-6 AISD STUDENTS SERVED AT EACH GRADE LEVEL, SEPARATELY FOR FALL AND SPRING, AND FOR THOSE ON AT LEAST ONE REPORT.

25.4

School	# Prekindergarten Children
Allan*	7
Brown**	32
Maplewood	15
Norman	16
Ortega	16
Ridgetop*	6
Rosewood	16
Sims	16
TOTAL	124

\*  $\frac{1}{2}$  teacher

\*\* 2 teachers

Figure C-8. NUMBER OF TITLE I  
PREKINDERGARTEN  
STUDENTS AT EACH  
CAMPUS, ACCORDING  
TO FALL EARLY  
CHILDHOOD ROSTERS.

Grade	# of Students Served
K	16
1	16
2	8
3	10
4	17
5	15
6	5
TOTAL	87

Figure C-9. NUMBER OF NONPUBLIC  
SCHOOL STUDENTS SERVED  
BY TITLE I AT EACH GRADE  
LEVEL, ACCORDING TO FALL  
SERVICE REPORT.



## N&amp;D INSTITUTIONS

Institutions	# of Students
Jr. Helping Hand Home	22
Salado House	15
Settlement Club Home	7
Spectrum Emergency Shelter	0*

Figure C-10. STUDENTS REPORTED AS BEING SERVED  
BY EACH N&D INSTITUTION.

\* No students were served because money  
for materials was not spent.

Attachment C-1

CORRESPONDENCE WITH PREKINDERGARTEN TEACHERS  
ABOUT EARLY CHILDHOOD ROSTERS

(Page 1 of 3)

AUSTIN INDEPENDENT SCHOOL DISTRICT  
Office of Research and Evaluation

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Attachment C-1  
(Page 2 of 3)

September 11, 1981

TO: Title I, Migrant, and Title VII Prekindergarten Teachers

FROM: Martin Argona, Title VII Evaluation Intern  
Catherine Christner, Migrant Evaluator  
Karen Carsrud, Title I Evaluator

SUBJECT: Prekindergarten Achievement Pretest

The Peabody Picture Vocabulary Test (PPVT) will be used again this year to measure prekindergarten achievement results. This will be a more recent version of the PPVT test, but the testing will be conducted in the same manner as it was last year. The testing dates will be in October during the period of the 19th through the 22nd and the 26th through the 29th.

Several teachers last year had very good success in getting high student attendance and positive student attitudes on the day of testing. The children were told about the testing beforehand. Notes were sent home asking parents to be sure the child got lots of sleep and came to school on the testing day. The children were very eager to participate and were not at all anxious.

Important points to remember about the testing are:

- We will be calling each of you later in September to schedule a testing date.
- We will start testing when your class begins in the morning and be finished before lunch.
- Each child will be tested individually and will be out of your class between five and fifteen minutes.

As always your cooperation is greatly appreciated. Please feel free to call with any questions.

CC:KC:MA:lg

APPROVED:

*John Hilly*  
Director, Research and Evaluation

APPROVED:

*Ruth Mac Allister*  
Assistant Superintendent for Elementary Education

cc: Anita Uphaus  
Lee Laws  
Oscar Cantu  
Hermelinda Rodriguez  
Anita Coy

Timy Baranoff  
Lawrence Buford  
Principals with Migrant, Title I, and Title VII pre-K teachers  
Eva Rivera

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**Birthdate**[illegible]

Attachment C-1  
(Page, 3 of 3)

Attachment C-2

CORRESPONDENCE WITH NONPUBLIC AND N&D SCHOOLS  
ABOUT EALL SERVICE REPORT

(Page 1 of 8)

November 19, 1981

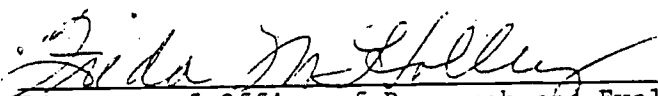
TO: Nonpublic School Principals

FROM: Karen Carsrud, Title I Evaluator

SUBJECT: Title I Service Report for Nonpublic Schools

As you know, our office is charged with evaluating the Title I Program on your campus. In order to do that, we need to know who you are serving and what their test scores are. The attached form is designed to provide that information. Please complete the report following the enclosed instruction and return the form to ORE by December 4, 1981.

If you have any questions, please feel free to call (458-1227).

Approved: 

Director of Office of Research and Evaluation

KC/lw

Enclosure

cc: Oscar Cantu  
Lee Laws  
Allie Langdon  
Sister Loretta Raphael

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## TITLE I SERVICE REPORT FOR NONPUBLIC SCHOOLS

## INSTRUCTIONS

The purpose of the Service Report is to provide information about the services being provided by Title I to students in nonpublic schools. Please provide the information described below for each student who received Title I services at your school.

Name: List the students served by the Title I Program at your school. Please do not use nicknames.

Address: Home address of the student, street and number. Include city if student resides outside Austin.

Grade: Current grade placement of the student.

Selection Test: The selection test is the one used to determine the student's eligibility for Title I service. The boxes under this heading are divided in half; the bottom or left half is for reading tests, the top or right half is for math tests. Selection Test information is needed for each area in which a student receives Title I instruction. For each test provide the information described below.

- a. Test Name. You can write initials of the test in the box; e.g., SRA or ITBS. Unless you indicate otherwise, the test will be assumed to be a reading total score.
- b. Score. Record the student's percentile score. If no percentile score is available, indicate what kind of score has been recorded.
- c. Date. The date the test was given.

Pretest (if different from selection test): This refers to the test which will be used to measure the achievement objective at your school.

Record the same information as described above. Remember that reading test information is recorded in the lower or left half, while math information is recorded in the upper or right half.

Title I Instruction: Indicate the subject area(s) in which each student received Title I instructional services. If the student was served in reading or math only, place a check in the proper column. If the student was served in both reading and math, check both columns.

Withdrawn: If a student has withdrawn from Title I, please record the withdrawal date in the last box on the right.

## Continuation - Title I Service Report Instructions

Also, at the bottom of the form, indicate the date you first began serving students in reading and math.

Return the completed forms to the following address:

Karen Carsrud  
AISD  
6100 Guadalupe  
Austin, Texas 78752

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Attachment C-2  
(Page 5 of 8)

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November 19, 1981

TO: Superintendents of N & D Institutions

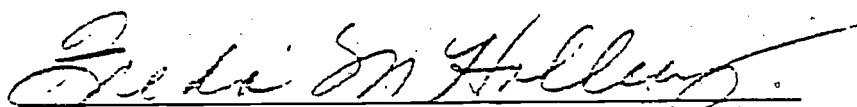
FROM: Karen Carsrud, Title I Evaluator

SUBJECT: ^ Title I Service Report for N & D Institutions

As you may know, our office is charged with reporting certain information to the Texas Education Agency regarding the Title I programs in institutions for neglected and/or delinquent children. Specifically, we need to know which students received Title I Services.

Please complete the enclosed report and return it to ORE by November 7th. If you have any questions or need additional materials, please call (458-1227).

Thank you.

Approved: 

Director of Office of Research and Evaluation

KC/lw

cc: Lee Laws  
Allie Langdon  
Oscar Cantu

## TITLE I SERVICE REPORT FOR N&amp;D INSTITUTIONS

## INSTRUCTIONS

The purpose of the Service Report is to provide information about the services being provided by Title I to students in N&D institutions.

Please provide the information described below for each student who receives Title I services at your home.

Name: List the names of all students served by Title I at your institution from August 27th through November 20, 1981.

AIISD School or Institutional Program: If the student attends an AIISD school, write the school's name in this column. If the student is not attending public school, use the codes below to show the kind of educational program serving the student.

- 1 = Institutional Basic Education Program: A program in reading, writing, math, etc. offered at the institution.
- 2 = Institutional Vocational Education Program: A vocational education program offered at the institutions.
- 3 = Institutional Special Education Program: An instructional program offered at the institution to students with handicaps or special needs.
- 4 = No Program: The student is not served by an educational program.
- 5 = Other: If the student is served by an educational program that is not described above, use this code and provide a brief description of the program.

Return the completed form to the following address:

Karen Carsrud  
AIISD  
6100 Guadalupe  
Austin, Texas 78752

## Title I Service Report for N&amp;D Institutions (1981-82)

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Attachment C-2  
(Page 8 of 8)

\*\* 1 = Institutional Basic Education Program  
2 = Institutional Vocational Education Program  
3 = Institutional Special Education Program  
4 = No Program  
[redacted] = Other (Specify) [redacted] [redacted] [redacted] [redacted] [redacted]

Attachment C-3

CORRESPONDENCE WITH AISD SCHOOLS  
ABOUT FALL SERVICE REPORT

(Page 1 of 4)

AUSTIN INDEPENDENT SCHOOL DISTRICT  
Office of Research and EvaluationAttachment C-3  
(Page 2 of 4)

November 16, 1981

TO: Principals of Title I Schools

FROM: Karen Carsrud, Title I Evaluator

SUBJECT: Title I Service Report

Attached is the Title I Service Report for Fall, 1981 along with a set of instructions for completing it. This data collection effort will serve two purposes. First, it replaces an effort by the Division of Planning and Programming to collect teacher codes. Other schools (non-Title I) will provide the information later.

Second, it is the first of two Title I Service Reports for the 1981-82 school year. There are two major steps to completing the form:

- a. updating the roster so that it reflects current enrollment
- b. adding the Title I information.

I suggest that the updating be done by someone at the school office who has access to current class rosters. It represents a task all elementary schools will be asked to complete eventually.

The Title I teachers should add the Title I information next. Please pass the report to \_\_\_\_\_, your school's Title I contact person, who will see that the form is completed with the Title I information and returned to ORE by December 10th.

If you have any questions about the report, please call (458-1227).

Approved: *John M. Holley*  
Director of Research and Evaluation

Approved: *Ruth MacAllister*  
Assistant Superintendent of Elementary  
Education

KC/lw

cc: Lee Laws  
Oscar Cantu  
Title I Instructional Coordinators  
Terry Bishop  
Gler Smith

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## INSTRUCTIONS FOR COMPLETING THE TITLE I SERVICE REPORT

The instructions below are rather detailed, but please read them carefully. They were written in detail in an attempt to anticipate problems that might arise. It is important that the instructions be followed so that the results are accurate and comparable across campuses.

Updating the Roster

The District's Department of Planning and Programming is planning to collect the information described below from each elementary school campus. In order to prevent your having to report this information twice, we have made arrangements to share this information with Planning and Programming. As a result, your school will be skipped when this information is collected from the other schools later in the year. In order for the information to be useful to Title I and Planning and Programming, it is important that you

- a. add the name, teacher code, and ID number for any unlisted students who currently attend your school, and
- b. add teacher codes for those students already listed.

Spaces have been left between grades for adding names. Use the instructions below for adding students and updating information.

1. Teacher: Attached to these instructions is a list of code numbers for the professional employees on your campus. Write the code number for each student's classroom teacher in the spaces to the left of the student's name. If a code number is already listed, verify its accuracy.
2. Student Name: Use the student's official name; do not use nicknames.
3. ID#: Add the student's AISD identification number.

If a student listed on the report *no longer attends your school*, mark a "W" for "Withdrawn" in place of the teacher code.

Adding Title I Information

The information requested below is needed for the Title I evaluation. It is important that the information be provided for each student to be served by Title I this year.

The instructions below describe how to record the Title I information.

1. Check If Served by Title I...: Place a check in this column to show which students are being served by Title I and also a check to indicate where he/she was served. Multiple checks should be made if the student was served in more than one place. *All students being served as of Nov. 16 should be checked, regardless of the length of service.*

For example the services for the students described below are coded on the sample form following.

Student 1: He is seen by a Title I teacher in his classroom.

Student 2: She is seen by the Title I Reading teacher in the classroom in the morning. In addition, she is seen by the Title I teacher in the reading center or lab twice each week.

	Check if Served By Title I	Check If Served In:	
		Lab	Class
Student 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Student 2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Return to ORE

When the report has been updated and completed, send it to the following address:

Lorrie Ward, O.R.E.  
Administration Building, Box 79

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Attachment C-4

SAMPLE PRINTOUT FROM FALL SERVICE REPORT

(Page 1 of 2)

AUSTIN INDEPENDENT SCHOOL DISTRICT  
OFFICE OF RESEARCH AND EVALUATION

TITLE I SERVICE REPORT

FALL, 1991

SCHOOL: ALLISON

GRADE: K

TEACHER NUMBER	STUDENT NAME	STUDENT ID	GRADE	* CHECK IF SERVED BY *	* CHECK IF SERVED IN: *	
				* TITLE I. *	LAB   CLASS	
006			K	*	*	*
000			K	*	*	*
---			K	*	*	*
---			K	*	*	*
007			K	*	*	*
007			K	*	*	*
008			K	*	*	*
007			K	*	*	*
---			K	*	*	*
006			K	*	*	*
---			K	*	*	*
008			K	*	*	*
007			K	*	*	*
---			K	*	*	*
---			K	*	*	*
---			K	*	*	*
---			K	*	*	*
009			K	*	*	*
---			K	*	*	*

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81.33

Attachment C-4  
(Page 2 of 2)

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\* CHECK BOTH IF APPLICABLE

Attachment C-5

SAMPLE PRINTOUT FROM SPRING SERVICE REPORT

(Page 1 of 2)

AUSTIN INDEPENDENT SCHOOL DISTRICT  
OFFICE OF RESEARCH AND EVALUATION

TITLE 1 SERVICE REPORT

SPRING, 1982

SCHOOL: BLACKSHEAR

GRADE: 5

81.33

STUDENT NAME	STUDENT ID#	GRADE	OUR RECORDS SHOW TITLE 1 SERVICE IN:	CORRECTIONS (IF ANY)		
				NOT SERVED	CHECK IF SERVED IN:	CLASS
		5	CLASS & LAB			
		5	LAB			
		5				
		5				
		5				
		5				
		5				
		5	LAB			
		5				
		5				
		5				
		5				
		5	LAB			
		5				
		5				
		5				
		5				
		5				
		5				

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Attachment C-5  
(Page 2 of 2)

Attachment C-6

CORRESPONDENCE WITH AISD SCHOOLS  
ABOUT SPRING SERVICE REPORT

(Page 1 of 4)

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AUSTIN INDEPENDENT SCHOOL DISTRICT  
Office of Research and EvaluationAttachment C-6  
(Page 2 of 4)

April 7, 1982

TO: Principals of Title I Schools

FROM: Karen Carsrud, Title I Evaluator *KC*

SUBJECT: Title I Service Report for Spring, 1982

In order to know which children are being served by the Title I program, we must verify and update the information collected on the Fall, 1981 Title I Service Report. Hopefully, this process will be fast and easy for you, because nothing will need to be done for students with correct information.

Enclosed is a printout of students at your school, according to the Student Masterfile. The printout also indicates the information we have about each student's Title I service.

Please read the enclosed instructions, complete the report, and return it to me by April 31, 1982. If you have any questions, call Karen Carsrud or Karen Goforth at 458-1227. Thank you for your help.

Approved: *Ricardo M. Kelley*  
Director of Office of Research and Evaluation

Approved: *Ruth M. Allister*  
Assistant Superintendent of Elementary Education

KC:lfs

cc: Timy Baranoff  
Hermelinda Rodriguez  
Oscar Cantu  
Alicia Martinez  
Ann Neeley  
Kathryn Stone

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INSTRUCTIONS FOR THE SPRING, 1982 TITLE I SERVICE REPORT (Page 3 of 4)  
(SEE ALSO ATTACHED SAMPLE REPORT)

- 1) For students with totally correct information, do nothing! No additional information is requested.
- 2) For Title I students who have withdrawn entirely from the school place a "W" under "Not Served."
- 3) For students who are still at your school, but who (contrary to our records) are not receiving Title I service, place a check ("✓") in the column under "Not Served." Do this *only* for students we list incorrectly as being served.
- 4) If the information about where the child is served (class, lab, or both class and lab) is incorrect, please show the *correct* information in the two right-hand columns on the printout.

IMPORTANT: The information you check in the three right-hand columns will replace the previous information. For students with incorrect information, the complete correct information should be placed in these columns. (See examples on the sample attached.)

- 5) Add to the printout only those Title I students who are receiving Title I service, but who are not listed on the printout. Non-Title I students who are not on the list do not need to be added.
- 6) If you need a copy of the completed printout for your records, please write "COPY" in the top right-hand corner of the first page of the printout, and we will send you a copy. (The carbon paper was so messy and hard to read that this approach should be easier.)
- 7) Send the completed report to:  
  
Karen Carsrud  
Office of Research and Evaluation
- 8) Please return them by April 31, 1982. Call Karen Carsrud or Karen Goforth if you have any questions.

AUSTIN INDEPENDENT SCHOOL DISTRICT  
OFFICE OF RESEARCH AND EVALUATION

TITLE I SERVICE REPORT

SPRING, 1982

81.33

SCHOOL:

GRADE:

Problem:

STUDENT NAME	STUDENT ID#	GRADE	OUR RECORDS SHOW TITLE I SERVICE IN:	RECORD SHOULD INDICATE: CHECK IF SERVED IN:		
				NOT SERVED	LAB	CLASS
Student has withdrawn.	Student 1	0000000	K	Lab	W	
Student is not Title I	Student 2 (actually not served)	0000000	K	Class	✓	
Information on location of service is incorrect.	Student 3 (actually served in both class & lab)	0000000	K	Class	✓	✓
	Student 4 (Served in class, not lab)	0000000	K	Lab		✓
No problems; Information is correct.	Student 5	0000000	K			
	Student 6	0000000	K	Lab		

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Attachment C-6  
(Page 4 of 4)

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ESEA Title I

Appendix D

KINDERGARTEN OBSERVATION FORM

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## Instrument Description: Kindergarten Observation Form

Brief description of the instrument:

The Kindergarten Observation Form is a systematic observation instrument designed to answer--"What is the amount and type of instruction provided to former pre-kindergarten and regular kindergarten students during a school day?" Two students from a class were observed for each minute during an entire school day. The variables observed include adult-contact, amount of instruction, instructional grouping, group size and off-task behavior.

To whom was the instrument administered?

A total of 104 kindergarten students--52 who had participated in a Title I prekindergarten program, and 52 who had not participated in any District prekindergarten activities.

How many times was the instrument administered?

One observation day was conducted per student, although two students were observed simultaneously. Hence, 52 observations were conducted.

When was the instrument administered?

Between December, 1981 and May, 1982.

Where was the instrument administered?

Any area of the school where the students received instruction.

Who administered the instrument?

A Title I evaluation assistant.

What training did the administrators have?

General training in the observation procedures and three days of practice observations.

Was the instrument administered under standardized conditions?

Classroom situations varied.

Were there problems with the instrument or the administration that might affect the validity of the data?

The advance notification of scheduled observations may have caused teacher preparation for the observation. Also, some teachers identified the students under observation and may have altered their behavior toward the students.

Who developed the instrument?

Office of Research and Evaluation, Austin Independent School District.

What reliability and validity data are available on the instrument?

Inter-rater reliability was assessed using intraclass correlation coefficients for each of the coded categories.

Are there norm data available for interpreting the results?

No.

## KINDERGARTEN OBSERVATION FORM

## Purpose

Information from the Kindergarten Observation Form was used to answer the following decision and evaluation questions from the Title I Evaluation Design for 1981-82.

Decision Question D5: Should changes be made in the instruction of kindergarten students who have participated in Early Childhood Education programs?

Evaluation Question D5-1: Are there differences between former prekindergarten students and their regular kindergarten peers in the amount of time they spend in: a) basic instruction, b) adult contact, or c) time-on-task?

Evaluation Question D5-2: What are the differences in the instruction of former prekindergarten students and their regular kindergarten peers?

## Procedure

Instrument Development

Two major observation instruments that have been previously used in AISD are: a) the Early Childhood Observation Form (ECOF) which was in prekindergarten classes, and b) the Pupil Activities Record-Original and Revised (PAR-R), which was used in elementary grades. Both instruments had been shown to provide useful information in the grade levels for which they were designed. However, it was decided to combine and modify sections of the two instruments so that:

- two students could be observed simultaneously as a pair,
- the level and grouping of students' instruction could be ascertained, and
- the form reflected the somewhat general nature of many kindergarten activities.

Attachment D-1 contains a copy of the final form that was developed and Attachment D-2 contains the instructions used in coding the observations.

Sampling

Students in the sample were chosen as either Group I or Group II students. Kindergarten students for 1981-82 who were in the Title I prekindergarten program for 1980-81 were randomly ordered, and the first 52 students were chosen as the Group I students for the observations. Kindergarten students who had not been in a Title I, Migrant, or Title VII prekindergarten program were then randomly ordered and the first child with the same school and teacher as the Group I student was then selected as the matching Group II student in a pair. Alternates for each student were other students in the same class who fell into the same category of program definition.

All sampling and scheduling were conducted by the evaluator. The evaluation assistant/observer was not told which of the two groups consisted of former prekindergarten students. However, it is likely that differences in ability between Group I and Group II students made it apparent which students had received prekindergarten instruction. In addition, four Group II students were found to have received private prekindergarten instruction, and others may also have received such instruction. Although the four students who were known to have received private prekindergarten instruction were omitted from the analyses, the remaining effects of these two confounding variables on the observations are not known.

### Scheduling

Observations began in early December and continued through mid-April. Make-up observations were scheduled in late April and early May. It was decided that the two days immediately before and after Christmas holidays would be excluded from the list of potential observation days. School holidays for pupils were also excluded. A total of 80 days remained on which observations could be scheduled. These possible observation dates were numbered from "1" to "80", and fifty-two random numbers were chosen between 1 and 80, inclusive. These fifty-two numbers corresponded to the fifty-two dates that were chosen for the observations.

The fifty-two pairs of target students were then arranged in random order (using random numbers from 1 to 52). The order in which the pairs were arranged in turn determined the order of observations.

All elementary principals were sent a memo telling them about the observations, even though not all schools were observed. Attachment D-3 contains this memo, along with the announcement for principals to post in their school for teachers. Attachment D-4 contains a copy of the brochure sent to principals for sharing with their staff. The brochure provides additional information about the observations.

### Reliability Checks

Two half-day reliability checks were conducted. One was conducted in the morning and the other in the afternoon. The evaluator conducted the reliability checks with the evaluation assistant/observer. Results of these checks are reported in "Results" section of this appendix.

### Conducting the Observations

Due to some unusual Christmas field trip activities, the first observation was rescheduled. In addition, one observation was cut short, due to snow. Students were sent home early and it was decided that a specific code of 7 under "No Instruction" would be used to describe the cancellation of activities until the end of that school day. One additional observation was rescheduled due to questions about how a field trip activity had been coded. Hence, the final sample of days included in the observations did not have any field trip days included.

## Analyses

In order to compare the students who had participated in Title I as pre-kindergartners with those who did not, a t-test was conducted on each major category that was coded. The dependent variable, in each case, was the number of minutes in a day that a student spent in a particular category of interest; e.g., the number of total minutes spent in formal instruction, the number of minutes in which adult contact occurred, etc. Figure D-1 contains a list of the variables that were examined. As mentioned earlier, four students who were discovered to have attended private prekindergarten were omitted from these analyses. It was not known whether they had received a program comparable to the Title I program, but they probably were not comparable to non-prekindergarten students, either.

Reliabilities were calculated using intraclass correlation coefficients, from the PRIME statistical library. Reliability data and programs are contained on University of Texas permanent file number A020, under the file names RELDATA and RELPROG.

## Results

Reliability. Figure D-1 reports data on both inter-rater and intra-rater reliability. Three behaviors or variables did not occur during the reliability checks and no reliabilities were calculated for these variables. These variables were: instructional arrangement, highest level; instructional arrangement, second highest level; and individualized instruction. Three other variables were found to have low reliabilities, while the remaining reliabilities were all above +.92, and most were above +.98. The three variables with comparatively low reliabilities were: no instruction, code 1 ("Other" noninstructional activities), off-task behavior, and contact with classroom teacher during formal instruction.

The low reliability for coding off-task behavior was probably due to some difficulty in determining what task a kindergarten student "should" be doing during the many, informal activities which occur in a kindergartner's day. Also, coding brief moments of off-task behavior is difficult when two students are observed simultaneously. Coding of overall ("total") noninstructional time was found to be very reliable (+.995) and the low reliability for the single subcategory of "Other" may be due to the inexperience of the evaluator doing the reliability check in using the categories.

Evaluation Question D5-1: Are there differences between former pre-K students and their regular kindergarten peers in the amount of time they spend in: a) basic instruction; b) adult contact, or; c) time-on-task?

Figure D-2 shows means for the two groups on each dependent variable, along with the probabilities that such differences occurred by chance. No statistically significant differences were found between the two groups in the amount of instruction (formal or informal) or adult conduct (any adult, classroom teacher, or other teacher) they received. No differences were found between the two groups on the frequency of off-task behavior, either.

DEPENDENT VARIABLES	INTER-RATER RELIABILITY	INTRA-RATER RELIABILITY
Total Formal Instruction	.9816	.9639
Formal Instruction-Adult Directed	.9866	.9735
Formal Instruction-Outside Of Class	.9982	.9964
Total Informal Instruction	.9926	.9853
Informal Instruction-Outcome Directed	.9668	.9357
Informal Instruction-Free Play Or Spontaneous By Teacher	.9972	.9944
Total No Instruction	.9945	.9890
No Instruction-Code "Other"	.1176	.0625
Contact With Classroom Teacher	.9009	.8197
Contact With Classroom Teacher-During Formal Instruction	.0962	.0505
Contact With Other Teacher	.9908	.9818
Contact With Other Teacher-During Formal Instruction	.9980	.9961
Contact With Other Adult	.9692	.9403
Contact With Other Adult-During Formal Instruction	.9635	.9296
Total Adult Contact	.9791	.9591
Off Task	.6042	.4329
Instructional Arrangement		
• Same Level	.9966	.9933
• Highest Level	*	*
• Second Highest Level	*	*
• Third Highest Levels (Or Lower)	1.0000	1.0000
• Whole Class	.9991	.9983
• Individualized	*	*
• Out-Of-Class For Instruction	.9982	.9964
Average Group Size	.9637	.9300
Average Group Size During Formal Instruction	.9901	.9804
Average Group Size During Informal Instruction	.9981	.9963

(\* None calculated-did not occur during reliability checks.)

Figure D-1. MAJOR DEPENDENT VARIABLES IN THE OBSERVATION ANALYSES,  
ALONG WITH THEIR RELIABILITIES.

Evaluation Question D5-2: What are the differences in the instruction of former prekindergarten students and their regular kindergarten peers?

Analysis of the types of instructional grouping that children participated in revealed that former prekindergarten students spent significantly more time in groups receiving the highest level of content than did non-pre-kindergarten students. In addition, the former prekindergarten students tended to receive less time in the lowest instructional groups ( $p < .09$ ). However, the size of these group differences was quite small; only a few minutes per day. Analysis of other variables did not reveal any differences between the two groups of students.

General Findings. Although not included in the Evaluation Design, several questions of interest can be asked of the observation data concerning the daily activities. Figure D-3 gives the average number of minutes per day spent in each activity for all children who were observed. Results indicate that the students spent approximately 95 minutes (25%) of their time in formal instructional activities, 55 minutes (14%) in informal instructional activities, and 240 minutes (61%) in noninstructional activities. Figure D-4 indicates the most recent information obtained about students in prekindergarten for comparison purposes. Total time spent in both types of instruction was lower for 1981-82 kindergartners than for 1980-81 prekindergartners.\*

\* (Prekindergarten students in 1979-80 spent even more time in instructional activities than prekindergarten students in 1980-81.)



DEPENDENT VARIABLES	MEANS FOR		p
	FORMER PRE-K	REGULAR K	
Total Formal Instruction	96.32	96.06	< .97
Formal Instruction-Adult Directed	76.34	77.57	< .84
Formal Instruction-Outside Of Class	19.98	18.49	< .61
Total Informal Instruction	54.77	53.15	< .76
Informal Instruction-Outcome Directed	18.02	18.13	< .98
Informal Instruction-Free Play Or Spontaneous By Teacher	36.75	35.02	< .68
Total No Instruction	238.91	240.79	< .81
No Instruction-Code "Other"	125.04	132.30	< .35
Contact With Classroom Teacher	106.25	105.53	< .91
Contact With Classroom Teacher-During Formal Instruction	50.09	49.79	< .95
Contact With Other Teacher	11.68	8.70	< .38
Contact With Other Teacher-During Formal Instruction	5.92	5.77	< .94
Contact With Other Adult	4.43	6.04	< .47
Contact With Other Adult-During Formal Instruction	1.94	2.83	< .46
Total Adult Contact	122.34	120.26	< .76
Off Task	1.21	1.30	< .87
Instructional Arrangement			
• Same Level	14.92	13.74	< .72
• Highest Level	7.09	2.09	< .09
• Second Highest Level	1.19	1.72	< .70
• Third Highest Levels (Or Lower)	.72	3.60	< .03*
• Whole Class	52.42	56.43	< .51
• Individualized	-	-	< -
• Out-Of-Class For Instruction	19.98	18.49	< .61
Average Group Size	4.02	3.69	< .31
Average Group Size During Formal Instruction	11.99	11.29	< .30
Average Group Size During Informal Instruction	7.12	5.87	< .13

\* Statistically significant.

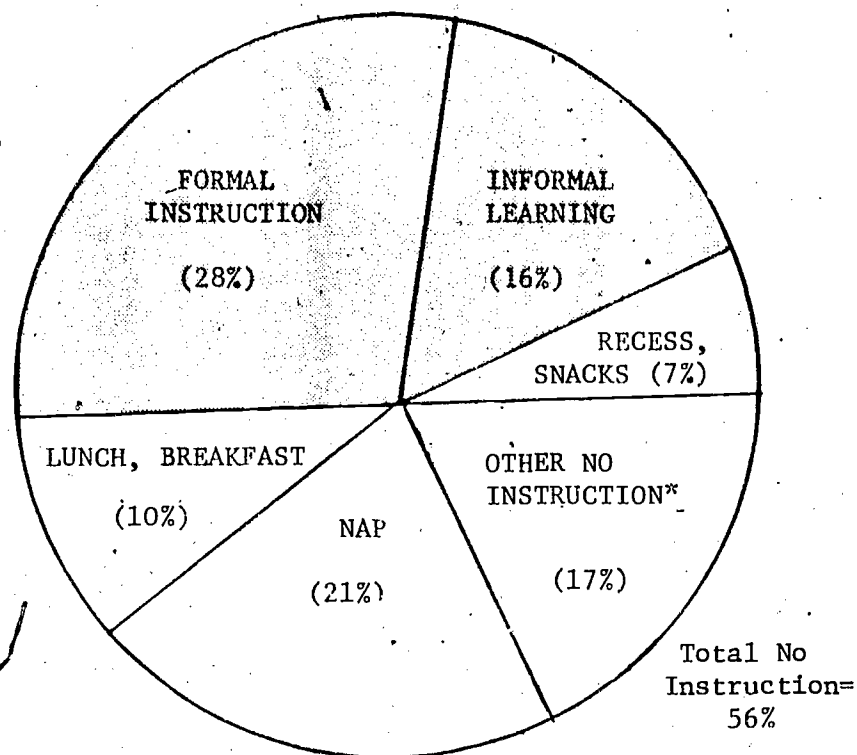
Figure D-2. COMPARISON OF GROUP MEANS ON EACH VARIABLE, FOR FORMER PREKINDERGARTEN AND REGULAR KINDERGARTEN STUDENTS.



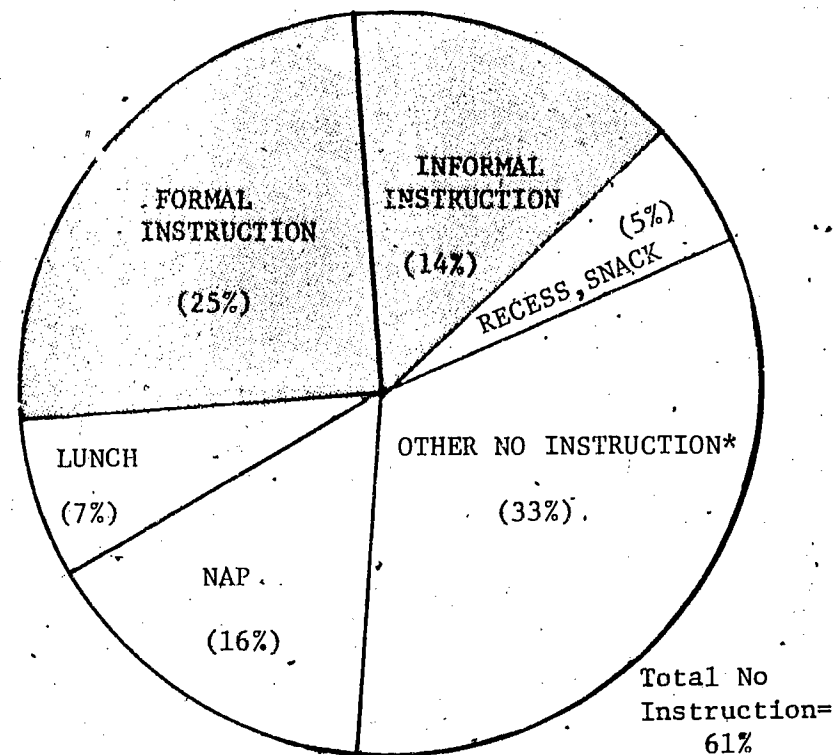
DEPENDENT VARIABLES	MEAN FOR ALL STUDENTS COMBINED
Total Formal Instruction	95.36
Formal Instruction-Adult Directed	76.03
Formal Instruction-Outside Of Class	19.33
Total Informal Instruction	55.17
Informal Instruction-Outcome Directed	18.23
Informal Instruction-Free Play Or Spontaneous By Teacher	36.94
Total No Instruction	239.47
No Instruction-Code "Other"	127.57
Contact With Classroom Teacher	105.20
Contact With Classroom Teacher-During Formal Instruction	49.50
Contact With Other Teacher	10.08
Contact With Other Teacher-During Formal Instruction	5.73
Contact With Other Adult	5.02
Contact With Other Adult-During Formal Instruction	2.27
Total Adult Contact	120.28
Off Task	1.20
Instructional Arrangement	
• Same Level	14.13
• Highest Level	4.56
• Second Highest Level	1.38
• Third Highest Levels (Or Lower)	2.67
• Whole Class	53.19
• Individualized	0.00
• Out-Of-Class For Instruction	19.33
Average Group Size	3.83
Average Group Size During Formal Instruction	11.60
Average Group Size During Informal Instruction	6.48

Figure D-3: MEAN NUMBER OF MINUTES PER DAY FOR EACH VARIABLE (ALL STUDENTS COMBINED).

D-10



Title I Prekindergarten Students in 1980-81.



Kindergarten Students in 1981-82.

Figure D-4: COMPARISON OF TIME USAGE FOR 1981-82 KINDERGARTEN STUDENTS AND 1980-81 TITLE I PREKINDERGARTEN STUDENTS.

\* "Other No Instruction" includes transition time from one activity to the next, housecleaning activities, going to the bathroom, passing out homework papers, lining up for lunch or music, washing hands, etc.

Attachment D-1

KINDERGARTEN OBSERVATION FORM

(Page 1 of 3)

## KINDERGARTEN OBSERVATION FORM 1981-1982

STUDENT # ONE:										STUDENT # TWO:																			
CARD	Time	ADULT CONTACT				ACTIVITY				Group Size	Off Task	L.A.	FILE ID:	OBSERVER NO:	OBSERVATION NO:	DATE: / /	Time	ADULT CONTACT				ACTIVITY				Group Size	Off Task	L.A.	CARD
		Class	Teacher	Other	Adult	No Instr.	Formal Instr.	Informal Instr.										Class	Teacher	Other	Adult	No Instr.	Formal Instr.	Informal Instr.					
	:01																:01												
	:02																:02												
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FOR FORMAL INSTRUCTION

- Instructional Arrangement (Plus Group Size, Off Task)

IN  
FOR FORMAL INSTRUCTION

- Group Size
- Off Task

ALWAYS CODE

- Adult Contact
- Activity

STUDENT # ONE:										STUDENT # TWO:																			
CARD	Time	ADULT CONTACT				ACTIVITY				Group Size	Off Task	I.A.	FILE ID: _____	OBSERVER NO: _____	OBSERVATION NO: _____	DATE: ____/____/____	Time	ADULT CONTACT				ACTIVITY				Group Size	Off Task	I.A.	CARD
		Class	Teacher	Other Teacher	Other Adult	No Instr.	Formal Instr.	Informal Instr.	Inst.									Class	Teacher	Other Teacher	Other Adult	No Instr.	Formal Instr.	Informal Instr.	Inst.				
	:31																:31												
	:32																:32												
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## FOR FORMAL INSTRUCTION

- Instructional Arrangement (Plus Group Size, Off Task)

## FOR FORMAL INSTRUCTION

- Group Size
- Off Task

## ALWAYS CODE

- Adult Contact
- Activity

Attachment D-2

INSTRUCTIONS FOR USING THE KINDERGARTEN  
OBSERVATION FORM

(Page 1 of 6)

## INSTRUCTIONS FOR USING THE KINDERGARTEN OBSERVATION FORM

This observation instrument was developed to provide information for use in comparing former pre-kindergarten students with kindergarten students who were not in a pre-kindergarten program.

Upon arriving at a school, the observer should go to the classroom of the target pair of children. The teacher should identify the two target children, as well as the two alternates. If one of the target children is absent, choose the alternate, if one is present in that class. If no alternate is present, choose a child at random to replace the targeted student.

The information described below is then recorded on a minute-by-minute basis for the school day.

Card Number

The first column on the extreme left or right indicates the card number on which the information on each three-line section of the observation form will be keypunched. The observer adds the necessary digits required to make the numbers consecutive from 1 to 130 for the school day.

Group Size

Group size is determined by the number of students involved in an informal or formal instructional activity with the student under observation. If no other students are involved in an activity with the observed student, group size is recorded as one. Therefore the group size is the number of students involved in the activity, including the student under observation.

Activities

Each minute of the school day is coded as belonging to one of the three following categories:

- a. Formal Instruction: Formal instructional activities are those activities in which the student under observation works directly with an adult in a group or alone. The activities in which he or she is engaged are planned and have specific rules or expectations concerning student behavior. The key element is that the student's behavior is directed in some way by an adult.

Formal instructional activities are coded in one or two of the following manners:

1. A "1" is placed in the column under Formal Instruction for each minute the student under observation is engaged in a planned activity occurring under the direction of an adult.



Formal instruction may occur outside of the regular classroom. For example, formal instructional activities occurring in the library or in other classrooms would be counted. (The observer in this case accompanies the students to the area and records whatever activity is occurring in the same manner as "inside the regular classroom" activities.) The exceptions to this rule are described below.

2. When students go outside the classroom to art, labs, music, PE, Migrant or Title I labs, the time spent in these activities is coded with a "2" under instruction. To record these activities the observer accompanies the student to the site of the class, if possible. Once the supervision by the new teacher begins, the observer leaves. A "2" is coded until the PE, music, or art instruction is completed. Regular coding begins again as the students line up and leave the room to go back to the regular classroom. No other information is coded when the students are at art, music, or P.E. (If only one student is "pulled out", remain in the classroom and code a "2" for the child who is out of the classroom.)

- b. Informal Learning Opportunities: There are also two classes of informal learning opportunities. Both types occur when the student is engaged in an activity where there is only incidental adult supervision or contact.

A "1" is coded when the student is working on a specific task following directions provided by the teacher. Activities coded under this classification are planned and are directed toward a specific outcome. For example, a student might be asked to create a Christmas scene using the materials provided or to build a house with blocks.

Activities coded with a "2" are those where the students are directed to a center to participate in "free play" activities. In these activities the student is not expected to produce a specific outcome. Examples are building something unspecified with blocks, playing house in the kitchen area, and reading a book. Another sort of activity coded with a "2" would be spontaneous opportunities "seized" by the teacher to make a noninstructional task instructional.

For example, if the teacher is passing out colored objects to students for some noninstructional purpose and she quizzes the students about the colors or remarks about the color each is receiving, then a "2" would be coded to record this spontaneous instructional event.



- c. No Instruction: This classification pertains to activities which are not instructional; e.g., washing hands, standing in line, dividing students into groups, etc. Instructions for housekeeping and transition between activities are coded as no instruction. Six numbers are used to code different types of no instruction:

Breakfast = 2  
Lunch = 3  
Nap = 4  
Snacks = 5  
Recess = 6  
Other = 1

If the student under observation awakens before the others during the nap time and begins doing something instructional, the proper instructional category is coded.

If the student under observation attends an assembly or participates in a planned "reward" activity (films, parties, etc.), the event should normally be coded as no instruction.

If the reward activity becomes an instructional activity, the event should be coded as Informal Instruction 2.

There are times when adult instructional involvement is left blank during formal instruction. For instance, when children (the student under observation must be included in this group of children) are watching TV and the teacher does not comment on what is being seen, instructional involvement is left blank.

#### Adult Contact

Adult contact is recorded each minute during the day. To record adult contact, the observer puts a "1" under the heading for each adult having contact with the student under observation during the minute. The observer should record any adult contact regardless of its instructional content or length of occurrence.

For the purpose of this observation form, any verbal statement addressed to the student under observation or the group to which he belongs or any physical contact between an adult and the student under observation is to be recorded as adult contact. Records or films do not necessarily constitute adult contact. If students are watching a film under adult supervision and the adult does not speak to or touch the student under observation, no adult contact is coded. If no adult contact occurs during the minute, all adult spaces would be blank.

#### Notes

The notes column on the form is important for recording descriptive information. This information can be useful in interpreting the results with the teacher. The notes column is also important in checking the form for coding errors after the observation has been completed. Each activity should be briefly described in this section.

Instructional Arrangement  
(I.A.)

I.A. is to be coded only during formal instruction. It is intended to show the extent to which the instructional activities of a student are either individualized or the same as those of his classmates. In general, it will be important to distinguish whether the task a particular target student is working on is:

- exactly the same task performed by all students, in the class (even if other students will be doing the activity at a different time.)
- a different task from other students, but of the same difficulty or instructional level as all other students, or
- a different task at a higher or lower level than at least some of the other students.

Because tasks that vary in level of content may also be confounded with scheduling arrangement, grouped activities will be coded separately from ungrouped activities. (See examples below.)

Basic codes for each student are as follows:

Target student is engaged  
in Grouped Instruction

- 0 - The task of the target student's group is the same, or of the same level, as the tasks done by other groups when they work on (or rotate through) this activity. (EXAMPLE: Students in one group learn how soldiers were dressed in 1700's, a second group learns how the average adult male dressed, a third group learns how adult females dressed. No difference in level.

OR:

Target student's group is engaged in puzzles, using squares and rectangles. Other two groups are doing other tasks but will "rotate through" the same puzzles.

Note: When it is unclear which I.A. code is appropriate, the observer should ask the teacher for additional information after class.

- 1 - The task of the target student's group is at the highest level of content. (EXAMPLE: the highest "language" group is working with the teacher, even though the other groups are doing non-language tasks. A student in the other groups would receive a "2" or a "3" only when his group is working on language.)
- 2 - Target student's group is at second highest level of content.

Target Student is Engaged  
in Ungrouped Instruction

- 3 - Target student's group is at third highest level of content (or lower).
- 4 - The class as a whole is working on the same task. (Group size may be one if student is working alone, or reflect the entire class. The relevant variable here is the task. Is it the same for the whole class, or not?).
- 5 - The target student has individualized or different instructional activities from some other class members. (Group size will usually be one.)
- 6 - Student is removed from the room for Migrant, Title I, music or other planned instruction.

Attachment D-3

MEMO TO PRINCIPALS CONCERNING OBSERVATIONS

(Page 1 of 4)

November 9, 1981

TO: Elementary Principals  
FROM: Karen Carsrud  
SUBJECT: Kindergarten Observations

As in past years, the Office of Research and Evaluation will conduct classroom observations in AISD schools this year. This year's observations will be conducted at the kindergarten level in order to examine the continuity of programs from pre-kindergarten to kindergarten classes. These observations are very important in providing the District with information about what happens in classrooms. Thus, ORE greatly appreciates your cooperation in helping the observations run as smoothly as possible.

## NOTIFICATION

One week prior to a visit to your school by an evaluation assistant/observer, you will receive written notification of the date of the observation, and the name of the evaluation assistant/observer. A notice for you to post and information about the observation will be provided at that time. Samples of these are enclosed.

Observations will not be conducted in every classroom. Which classrooms are observed depends upon which students have been chosen for observation.

## IN-CLASS PROCEDURES

The evaluation assistants will remain as much in the background in the classroom as possible. However, because student names usually will be needed, the teacher will be asked to identify a small number of students (four or five) prior to the beginning of the observation.

## TEACHER REACTIONS

After the observations, a reaction form will be left for the teacher to complete and return to ORE. The reaction form is an optional activity for the teacher. However, we encourage teachers to complete the forms because of the valuable feedback which they can provide to the evaluator.

Thank you for your cooperation.

Approved: *Leda McHollay*  
Director of Office of Research and Evaluation

Approved: *Ruth MacAllister*  
Assistant Superintendent for Elementary Education

KC/lw

enclosures

CC: Timy Baranoff  
Lawrence Buford

Oscar Cantu  
Hermelinda Rodriguez  
D-21

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## KINDERGARTEN OBSERVATION FORM: DESCRIPTION OF THE CATEGORIES

Group Size

Group size is determined by the number of students involved in an activity with the student under observation. If no other students are involved with the observed student, group size is recorded as one.

Activities

Each minute of the school day is coded as belonging to one of the three following categories:

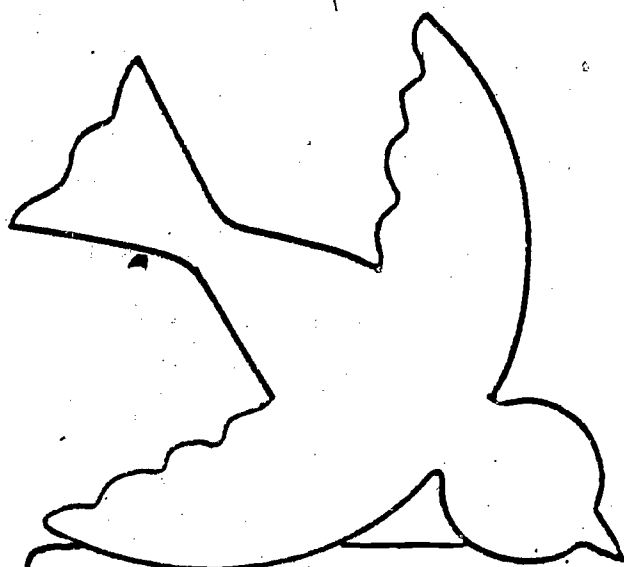
- a. No Instruction: This classification pertains to activities which are not instructional; e.g., washing hands, standing in line, dividing students into groups, etc.
- b. Formal Instruction: This classification refers to planned instructional activities (usually under adult direction and supervision)
- c. Informal Learning Opportunities: This refers to informal learning activities such as building with blocks, or looking at puzzles or a book. This category also includes activities which would normally be coded as "No Instruction" if there is a clear attempt by an adult to make the activity instructional. For example, lining up to go to lunch would be considered an informal learning if the teacher asked the students to group themselves in lining up by the color of their clothing.

Adult Contact

Adult contact is coded to show which adults have contact with the students under observation during each minute of the day.

Instructional Arrangement

This refers to attempts made by the teacher to individualize instruction or to group students according to their ability levels.



## ANNOUNCEMENT

*An ORE observer  
will be in our school  
on the following dates:*

\_\_\_\_\_  
\_\_\_\_\_

*She will be doing all-  
day observations of  
small numbers of students.  
Please give her your  
cooperation. Thank you.*

Attachment D-4

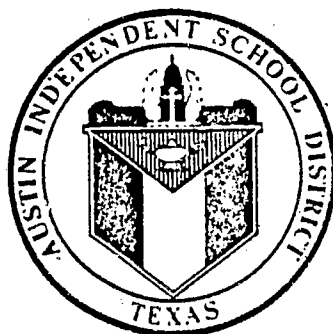
BROCHURE CONCERNING  
KINDERGARTEN OBSERVATIONS

(Page 1 of 5)



Information  
from ORE about

Classroom  
Observations



## 1. WHY ARE CLASSROOM OBSERVATIONS NECESSARY?

Experience has shown that when achievement scores are reported, it is important to see a description of what actually happened in the classroom to produce that achievement. When the achievement data for students are reported, the instructional program which produced those results needs to be very carefully described.

Observations from ORE are definitely not for personnel evaluation. The data collected on individuals are not available to principals or to the personnel office.

## 2. WHAT TRAINING HAS THE OBSERVER HAD?

The evaluation assistant who will be observing in project schools has a bachelor's degree. The observer has received training in observation processes as well as a practicum in observing with the instruments to be used. All of the questions outlined in this paper have been discussed in detail with the evaluation assistant.

## 3. WILL TEACHERS HAVE AN OPPORTUNITY TO MAKE COMMENTS ABOUT THE OBSERVATIONS?

After each observation, a reaction form will be left in the classroom for mailing to ORE any comments or reactions to the observation.

## 4. WHO WILL BE THE OBSERVER? HOW WILL THE TEACHER KNOW WHEN SHE COMES TO THE ROOM?



As standard procedure, any observer from ORE will identify themselves at the school office upon arrival and will wear name

WANDA WASHINGTON

tags on campuses where this is requested.  
The observer for 1981-1982 will be Wanda  
Washington, pictured here.

5. WILL THE TEACHER KNOW WHEN AN OBSERVER  
WILL BE IN THE CLASSROOM?

Observations are scheduled at random times  
to sample a range of school activities.  
ORE will notify a school of the dates on  
which observations will occur; however,  
individual teachers will not be told the  
specific dates of observations in their  
classrooms.

6. WHAT HAVE BEEN TEACHERS' REACTIONS TO  
OBSERVATIONS IN THE PAST?

Reactions forms returned to ORE in the past  
showed that almost 90% of the teachers felt  
that the observations were conducted at a  
convenient time, more than 85% felt that the  
activities observed were representative of  
normal classroom activities, and 98% felt  
that the observer did not detract from the  
effectiveness of instructional activities.

7. IS THERE A DIFFERENCE BETWEEN THE OBSERVATIONS  
CONDUCTED BY ORE AND THOSE CONDUCTED BY IN-  
STRUCTIONAL SUPERVISORS?

Yes, the ORE observer is collecting data for  
the purpose outlined in #1. The instructional  
supervisors will be observing for the purpose  
of identifying areas in which they may help  
the teachers and aides in implementing instruc-  
tional activities.

## 8. WHAT IS THE NATURE OF THE ORE OBSERVATIONS?

Observations will be conducted using the Kindergarten Observation Form, 1981-1982 (KOF). The KOF will be used to record the activities of paired, randomly selected, students for the entire school day. For each minute of the day, the observer will record the following information.

1. Instructional area in which the students are functioning.
2. Group size in which the students are working.
3. Instructional arrangement.
4. Person delivering instructions.
5. On-Task/Off Task behavior.

None of the instruments used requires the observer to make judgements about the effectiveness or appropriateness of the on-going instruction.

Attachment D-5

COMPUTER OUTPUT FOR T-TESTS

(Page 1 of 10)

## \*\*\* OUTPUT FROM PROGRAM ANCOVAR \*\*\*

KINDERGARTEN OBSERVATION SUMMARIES 1981-1982 T1 PRE-K VS NO PRE-K

## PARAMETERS

COL 1- 5 = 26  
 COL 6-10 = 2  
 COL 11-15 = 1  
 COL 16-20 = 0  
 COL 21-25 = 0

DATA FORMAT = (DUMMY)

GROUP 1 53 SUBJECTS. PRE-K STUDENTS

GROUP 2 47 SUBJECTS. NO PRE-K STUDENTS

## ANALYSIS FOR VARIABLE 1

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	1059.9798	99.		
GROUPS	1.6443	1.	0.002	0.9677
ERROR (G)	1070.7791	98.		

G MEAN	1	2
	96.3208	96.0633

## ANALYSIS FOR VARIABLE 2

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	941.3673	99.		
GROUPS	37.9838	1.	0.040	0.8363
ERROR (G)	950.5355	98.		

G MEAN	1	2
	76.3396	77.5745

## ANALYSIS FOR VARIABLE 3

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	200.2642	99.		
GROUPS	55.4342	1.	0.275	0.6078
ERROR (G)	201.7421	98.		
G MEAN	1 19.9811	2 18.4894		

## ANALYSIS FOR VARIABLE 4

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	728.4943	99.		
GROUPS	65.7495	1.	0.039	0.7632
ERROR (G)	735.2576	98.		
G MEAN	1 54.7736	2 53.1489		

## ANALYSIS FOR VARIABLE 5

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	408.1264	99.		
GROUPS	0.2943	1.	0.001	0.9770
ERROR (G)	412.2379	98.		
G MEAN	1 18.0189	2 18.1277		

## ANALYSIS FOR VARIABLE 6

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	412.2388	99.		
GROUPS	74.8500	1.	0.180	0.6759
ERROR (G)	415.6815	98.		
G MEAN	1 36.7547	2 35.0213		

## ANALYSIS FOR VARIABLE 7

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	1551.0161	99.		
GROUPS	88.1894	1.	0.956	0.8080
ERROR (G)	1565.9429	98.		
G MEAN	1 233.9057	2 240.7872		

## ANALYSIS FOR VARIABLE 8

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	1445.7045	99.		
GROUPS	1312.9957	1.	0.907	0.3451
ERROR (G)	1447.0537	98.		
G MEAN	1 125.0377	2 132.2979		



## ANALYSIS FOR VARIABLE 9

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	1144.9312	99.		
GROUPS	12.6766	1.	0.011	0.9134
ERROR (G)	1156.4848	98.		
G MEAN	1 106.2453	2 105.5319		

## ANALYSIS FOR VARIABLE 10

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	591.9874	99.		
GROUPS	2.3494	1.	0.004	0.9483
ERROR (G)	537.9020	98.		
C MEAN	1 50.0943	2 49.7372		

## ANALYSIS FOR VARIABLE 11

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	278.0824	99.		
GROUPS	220.7830	1.	0.792	0.3792
ERROR (G)	278.6571	98.		
G MEAN	1 11.6792	2 8.7021		

## ANALYSIS FOR VARIABLE 12

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	122.6540	99.		
GROUPS	0.6264	1.	0.005	0.9417
ERROR (G)	123.8992	98.		
G MEAN	1 5.9245	2 5.7660		

## ANALYSIS FOR VARIABLE 13

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	119.5494	99.		
GROUPS	64.4362	1.	0.537	0.4724
ERROR (G)	120.1116	98.		
G MEAN	1 4.4340	2 6.0426		

## ANALYSIS FOR VARIABLE 14

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	34.7176	99.		
GROUPS	19.5715	1.	0.561	0.4622
ERROR (G)	34.8721	98.		
G MEAN	1 1.9434	2 2.8298		

## ANALYSIS FOR VARIABLE 15

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	1165.0206	99.		
GROUPS	108.2170	1.	0.092	0.7601
ERROR (G)	1175.8043	98.		
G MEAN	1 122.3396	2 120.2553		

## ANALYSIS FOR VARIABLE 16

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	7.6343	99.		
GROUPS	0.2032	1.	0.026	0.8662
ERROR (G)	7.7607	98.		
G MEAN	1 1.2075	2 1.2979		

## ANALYSIS FOR VARIABLE 17

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	263.4779	99.		
GROUPS	34.6757	1.	0.128	0.7219
ERROR (G)	270.8636	98.		
G MEAN	1 14.9245	2 13.7447		

## ANALYSIS FOR VARIABLE 18

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	227.6085	99.		
GROUPS	625.0521	1.	2.796	0.0938
ERROR (G)	223.5529	98.		
G MEAN	1 7.0943	2 2.0851		

## ANALYSIS FOR VARIABLE 19

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	48.0469	99.		
GROUPS	7.1225	1.	0.147	0.7041
ERROR (G)	48.4645	98.		
G MEAN	1 1.1887	2 1.7234		

## ANALYSIS FOR VARIABLE 20

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	46.9344	99.		
GROUPS	206.4361	1.	4.556	0.0331
ERROR (G)	45.3009	98.		
G MEAN	1 0.7170	2 3.5957		

## ANALYSIS FOR VARIABLE 21

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	863.0000	99.		
GROUPS	400.6427	1.	0.462	0.5055
ERROR (G)	867.7179	98.		
G MEAN	1 52.4151	2 56.4255		

## ANALYSIS FOR VARIABLE 22

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	0.0	99.		
GROUPS	0.0	1.	0.0	1.0000
ERROR (G)	0.0	98.		
G MEAN	1 0.0	2 0.0		

## ANALYSIS FOR VARIABLE 23

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	200.2642	99.		
GROUPS	55.4342	1.	0.275	0.6078
ERROR (G)	201.7421	98.		
G MEAN	1 19.9811	2 18.4894		

## ANALYSIS FOR VARIABLE 24

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	2.6327	99.		
GROUPS	2.7686	1.	1.032	0.3130
ERROR (G)	2.6819	98.		
G MEAN	1 4.0230	2 3.6896		

## ANALYSIS FOR VARIABLE 25

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	11.2311	99.		
GROUPS	12.0377	1.	1.063	0.3046
ERROR (G)	11.2733	98.		
G MEAN	1 11.9854	2 11.2903		

## ANALYSIS FOR VARIABLE 26

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	16.9552	99.		
GROUPS	38.8693	1.	2.323	0.1267
ERROR (G)	16.7316	98.		
G MEAN	1 7.1157	2 5.9666		

ESEA Title I/Title I Migrant

Appendix E

PARENT ADVISORY COUNCIL RECORDS

## Instrument Description: Parent Advisory Council Records

Brief description of the instrument:

The Parent Advisory Council records included districtwide and local PAC attendance forms and agenda. The information was gathered at PAC meetings.

To whom was the instrument administered?

Persons attending PAC meetings filled in the attendance forms; agendas concerned those meetings.

How many times was the instrument administered?

Once at each PAC meeting.

When was the instrument administered?

During PAC meetings.

Where was the instrument administered?

At sites of PAC meetings.

Who administered the instrument?

Community representatives or other local-campus contact persons were responsible for seeing that parents signed attendance forms and for sending in an agenda for each meeting.

What training did the administrators have?

The needed information was discussed with community representatives at a meeting early in the school year.

Was the instrument administered under standardized conditions?

No.

Were there problems with the instrument or the administration that might affect the validity of the data?

No.

Who developed the instrument?

The Office of Research and Evaluation.

What reliability and validity data are available on the instrument?

None.

Are there norm data available for interpreting the results?

No.



## PARENT ADVISORY COUNCIL RECORDS

## Purpose

## Title I

Information from local and Districtwide PAC meeting agendas and attendance forms was used to answer the following decision and evaluation questions from the Title I Evaluation Design for 1981-82.

Decision Question D6: Should the Title I Parental Involvement Component be modified? If so, how?

Evaluation Question D6-1. Were the objectives of the Parental Involvement Component met?

Evaluation Question D6-2. Did attendance at Districtwide and local PAC meetings improve over the 1980-81 school year?

Evaluation Question D6-3. How many Districtwide and local PAC meetings were held between July 1, 1981 and June 30, 1982?

## TITLE I MIGRANT

Decision Question D4: Should the Parental Involvement Component be continued as it is, modified, or deleted?

Evaluation Question D4-1. Were the component's objectives met?

Evaluation Question D4-2. How many Districtwide and local PAC meetings and training sessions were held between August 1, 1981 and April 30, 1982?

Evaluation Question D4-3. Did more parents (registered in the Migrant Program) attend local and Districtwide PAC meetings and training sessions during 1981-82 than they did during 1980-81?

## Procedure

The legislation creating Title I requires that each participating school within a project must elect at least eight persons to serve as the school's Title I Parent Advisory Council (PAC). In order to monitor the establishment of PACs, the Title I and Migrant Program Evaluations collected several types of data.

At the beginning of the school year, each Title I/Migrant Program principal was contacted about PACs. A Title I/Migrant Program PAC contact person was assigned for each school by the principal. This contact person was responsible for sending all agendas, minutes, and sign-in sheets to the Parental Involvement Specialist (this is true only at the elementary level). Since in past years, the sign-in sheets have frequently been illegible, a PAC Meeting Roll Sheet (see Attachment E-1) was developed by the Title I Evaluation staff for use at the PACs at both the local-campus and district-wide level. The Parental Involvement Specialist was responsible for collecting this information at the Elementary Districtwide PAC.

Due to less stringent regulations, the Migrant Program was not required to have local-campus PACs, except where there were large numbers of students (over 40) being served by a Migrant Program teacher. At these campuses, there was also a Title I Program, so in all cases these were joint PACs. Based on parent suggestions, the Districtwide PAC was separated into an Elementary Title I/Migrant PAC and a Secondary Migrant Program PAC. It was felt the needs of the secondary parents would be better served in this fashion. Rather than having local campus PACs at the secondary level, all school were combined in one Secondary Districtwide PAC. The Secondary Migrant Coordinator was responsible for gathering the rosters, agendas, minutes, etc. He mailed these to the Migrant Evaluator. The PAC Meeting Roll Sheet was used.

Periodically the PAC information gathered by the Parental Involvement Specialist and the Secondary Migrant Coordinator was sent to ORE. These records form the bases for this appendix. The number of meetings and the number of parents in attendance were tallied by hand. The meeting agendas and minutes were examined to determine which were PAC meetings and which were parent-training sessions. See Attachment E-2 for the definition used to determine which meetings were training sessions.

A total of 28 Title I or Title I/Migrant Program and three Migrant Program local campus PACs were established.

The results reported in this appendix should be interpreted with caution for the following reasons:

1. *The determination of which sessions were PAC meetings, parent-training sessions, or PTA meetings contains a degree of subjectivity.*
2. *The attendance forms frequently did not have the proper status check (parent, staff, guest) of persons listed thereon. The AISD Staff Directory was used to make the determination of status when possible.*
3. *In some cases the schools had skits or programs performed by their upper grades prior to PAC meetings. so the students signed in along with their parents. The Title I evaluation assistant was able to eliminate some of the students from the lists of parents by matching names found on the PAC Meeting Roll Sheet dated before or after the performances.*

## Results

Results are reported separately for each program.

## Title I

Evaluation Question D6-1. Were the objectives of the Parental Involvement Component met?

Results are given separately for each objective.

- . A minimum of one parent training session for the Districtwide PAC members will be held during the 1981-82 school year. It may be in conjunction with the Districtwide PAC meetings.

This objective was met. A total of two training sessions were held at Districtwide PAC meetings.

- . A minimum of one parent training session will be held on each Title I campus during the 1981-82 school year. It may be held in conjunction with the local PAC meeting.

This objective was *not* met. Only 20 of the 28 Title I campuses held training sessions, with a total attendance of 299 Title I parents. A total of 30 training sessions were held at these 20 schools.

- . A minimum of two staff development sessions will be held by the Title I and Title I Migrant instructional coordinators for the community representatives and/or the campus PAC contact persons.

This objective was met. The first staff development session occurred in early August and the second was held January 14-15.

Evaluation Question D6-2. Did attendance at Districtwide and local PAC meetings improve over the 1980-81 school year?

Last year (1980-81) the records indicated that a total of 1158 Title I parents attended local and districtwide PAC meetings and workshops. The attendance records indicate duplication in total attendance: many parents are counted more than once in the total. For 1981-82, this duplicated total was 704. Hence, attendance was seen to drop from last year.

A total attendance of 299 parents was recorded for the 20 PAC workshops and training sessions. As seen in Figure E-3, some schools had a large number of parents in attendance (notably Harris with 52 parents, Metz with 50, and Linder with 38 parents), when compared to other schools.

Evaluation Question D6-3. How many Districtwide and local PAC meetings were held between July 1, 1981 and June 30, 1982?

As shown in Figure E-1, a total of 89 local Title I PAC meetings were held in AISD that directly involved regular Title I parents. A total of eight Elementary Districtwide PAC meetings were held. One parochial school PAC meeting was also held.

## Title I Migrant

Evaluation Question D4-1. Were the component's objectives met?

- a) *Local PACs: 1) By October, 1981, a local PAC is to be established for a campus in which 75 or more students are to be served by a Title I Regular and/or a Title I Migrant Program or project. A minimum of three meetings are to be held in 1981-82. A local PAC will be considered established if a meeting has been held and the required number of members has been elected. 2) For a campus wherein more than 40 but less than 75 students will be served under Title I Regular and/or the Migrant Program, the District will establish a PAC. A local PAC will be considered established if a meeting has been held and the required number of members has been elected. 3) A campus PAC is not required for any campus being served with Title I in which not more than one full-time equivalent Title I staff member will be assigned and in which not more than 40 students participate in the Title I Regular and/or Migrant Program.*

In Figure E-1 are presented the data for the local-campus PACs. All schools established a PAC, even though Dawson and Webb only had one meeting each. All campuses except Brown, Webb, Rosewood, and Dawson elected officers on dates underlined in the figure.

- b) *Districtwide PACs: The combined Districtwide Title I/Title I Migrant Parental Advisory Council will be established for the 1981-82 school year. The Districtwide PAC will be considered to have been established if a meeting has been held and the required number of officers were elected.*

In Figure E-2 are presented the dates and attendance at the Elementary Districtwide PAC meetings. Officers were elected in October and eight meetings were held during the school year.

Evaluation Question D4-2. How many Districtwide and local PAC meetings and training sessions were held between August 1, 1981 and May 31, 1982?

As can be seen in Figure E-1, a total of 96 local-campus PAC meetings were held in AISD. A total of 8 Elementary Districtwide PAC meetings were held. In Figure E-3 are presented the number of training sessions held and the number of parents in attendance.

For the first year, a separate Secondary Districtwide PAC was established. In Figure E-1 is presented the pertinent information on these meetings. A total of six meetings were held. Two of these were training sessions. Officers were elected on November 15, 1981. A total of 54 migrant parents attended.

In Figure E-3 are presented the schools that held at least one local-campus training sessions. A total of 73 migrant parents in all attended these sessions. As can be noted from the figure, St. Elmo parents made up nearly half of the parent attendance. Migrant parents attended sessions offered at only six schools.

Evaluation Question D4-3. Did more parents (registered in the Migrant Program) attend local and Districtwide PAC meetings and training sessions during 1981-82 than they did during 1980-81?

In 1980-81, records indicated 97 elementary Migrant Program parents attended local-campus PAC meetings and training sessions. In 1981-82, this figure increased considerably to 160 Migrant Program parents.

In 1980-81, 48 secondary Migrant Program parents attended local PAC meetings. This school year 54 attended the Secondary Districtwide PAC meetings.

The 1981-82 Elementary Districtwide PAC meetings and training sessions were attended in all by 63 Migrant Program parents. The figure from 1980-81 was 92 parents. These figures are not directly comparable since in 1980-81, these meetings included both elementary and secondary parents.

	Month and Date												
School	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Total No. of Meetings Held	No. of Migrant Program Parents Attending	Total Title I and Migrant Program Parents Attending	
Δ Allan			<u>11-04</u>				03-09			2	12	35	
Δ Allison	<u>09-01</u>	10-13	11-03	12-01						4	11	24	
Δ Becker			<u>11-11</u>	<u>12-08</u>			03-02			3	6	17	
Blackshear		10-03		<u>12-03</u>						2	0	9	
Δ Brooke/Highland Park	<u>09-22</u>			<u>12-17</u>	01-28			04-15		4	15	26	
Brown	<u>09-22</u>			12-01		02-23		04-15		4	0	20	
Campbell		10-20	<u>11-10</u>		01-21	02-11				4	0	20	
□ Cook			11-81			<u>02-18</u>		04-15	05-11	4	15	15	
Δ Dawson						02-09				1	2	6	
Δ Covalle		<u>10-20</u>	11-17	12-15	01-19					4	16	51	
Harris	<u>09-22</u>			12-01			03-12	04-06		4	0	63	
Linder	<u>09-29</u>		11-12							2	0	36	
Δ Langford	<u>09-14</u>	10-29								2	3	36	
Miplewood		10-06	<u>11-17</u>							2	0	30	
Δ Metz		10-01	11-12		01-27		03-02			4	18	83	

School	Month and Date									Total No. of Meetings	No. of Migrant Program Parents	Total Title I and Migrant Program Parents
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May			
Norman		10-13	11-20							2	0	6
Oak Springs		10-14		12-08			03-09		05-11	4	0	29
Δ Ortega		10-14		12-10	01-27				05-06	4	4	24
Pecan Springs			11-03	12-01						2	0	7
Δ Ridgetop			11-11	12-10		02-25				3	4	19
Rosedale			11-18	12-10		02-25				3	0	11
Rosewood			11-09	12-02						2	0	4
□ St. Elmo		10-81		12-16			03-04			3	44	44
Δ Sanchez		10-19	11-10	12-08	(01-12)*					3	5	15
Sims	09-22	10-13				02-02	03-09			4	0	13
Travis Heights		10-11	11-11			02-10	03-02		05-13	5	0	25
Walnut Creek	09-29			12-15						2	0	23
□ Webb				12-11						1	2	2
Winn		10-13	11-10							2	0	16
Wooten		10-13		12-08		02-23		04-06		4	0	42
Δ Zavala		10-28	11-18	12-09					05-05	4	3	21
TOTAL	8	17	18	19	5	9	8	5	5	97	160	772

## Symbol Key

Δ = Title I/Migrant Program school

□ = Migrant Program only school

\* = Meeting Cancelled Due to Inclement Weather

Date = Date officers were elected

Figure E-1. DATA REGARDING PARENT ATTENDANCE, DATES, AND OFFICER ELECTION FOR LOCAL AND DISTRICTWIDE PACS.  
(continued, page 2 of 3)

Non Public Schools	Month and Date									Total No. of Meetings	No. of Migrant Program Parents	Total Title I and Migrant Program Parents
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May			
St. Ignatius			11-10							1	0	4

Elementary Districtwide PAC	09-17	10-08	11-12	01-21	02-11	03-05	04-22	05-13		8	63	155
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Note: Officers were elected in Spring 1981.

Migrant Program Secondary Districtwide PAC	10-15	11-15		02-18	03-04	04-01	05-06			6	54	54
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Note: The November and February meetings were also training sessions.

#### Symbol Key

△ = Title I/Migrant Program school

□ = Migrant Program only school

\* = Meeting Cancelled Due to Inclement Weather

Date = Data officers were elected

Figure E-1. DATA REGARDING PARENT ATTENDANCE, DATES, AND OFFICER ELECTION FOR LOCAL AND DISTRICTWIDE PACS. (continued, page 3 of 3)



# DISTRICTWIDE PAC MEETINGS

MONTH		TITLE I ATTENDANCE	TITLE I MIGRANT	AIKD/ OTHERS	TOTAL	EVENT	COMMENTS
SEPTEMBER	17	7	7	11	25	Orientation	
OCTOBER	08	15	6	25	46	Workshop	
NOVEMBER	12	14	4	5	23	Workshop	Helping your child to read at home
DECEMBER			NO MEETINGS				
JANUARY	21	5		7	12	Guest Speaker Old business New business	This was a rescheduled meeting because of bad weather
FEBRUARY	11	19	10	11	40	Speaker Old business New business	
MARCH	05	14	3	9	26	Old business New business	
APRIL	22	4	2	9	15	Funding update retention: Promotion Policy	Application and planning Committee Meeting sched- uled
MAY	13	14	31	4	49	Entertainment	A program produced with St. Elmo and Goualle pre- K students and teachers
TOTAL		92	63	85	240		

Figure E-2. TITLE I/MIGRANT PARENTS, AIKD STAFF, AND OTHERS WHO ATTENDED THE ELEMENTARY DISTRICTWIDE PAC MEETINGS.

School	Number of Training Sessions Held	Number of Title I Parents Attending	Number of Migrant Program Parents Attending
Allan	1	8	4
Allison	0	0	0
Becker	1	7	0
Blackshear	1	3	0
Brooke	1	0	5
Brown	2	19	0
Campbell	3	16	0
*Cook	1	0	8
Dawson	0	0	0
Govalle	0	0	0
Harris	2	52	0
Langford	1	9	0
Linder	2	38	0
Maplewood	1	13	0
Metz	3	50	13
Norman	0	0	0
Oak Springs	1	7	0
Ortega	1	4	0
Pecan Springs	1	9	0
Ridgetop	0	0	0
Rosedale	0	0	0
Rosewood	0	0	0
Sanchez	0	0	0
*St. Elmo	2	0	36
Sims	1	3	0
Travis Heights	3	21	0
Walnut Creek	1	10	0
Winn	1	1	0
Wooten	2	25	0
Zavala	1	4	2
TOTAL	33	299	68

\*Note indicates Migrant Program schools only.

Figure E-3. COUNT OF TITLE I/MIGRANT PROGRAM PARENTS ATTENDING LOCAL CAMPUS PAC WORKSHOPS/TRAINING SESSIONS.

# PAC MEETING ROLL SHEET

District ☐

Local ☐

Date: \_\_\_\_\_

Campus: \_\_\_\_\_  
( IF LOCAL )

Name	Telephone	Check One		
		PARENTS	Title I Migrant	AI SD / Others
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

SEND YELLOW COPY TO MARIA WASHINGTON, BOX 79/ORE, AI SD'n MAIL. SEND WHITE AND PINK COPIES TO EVA BARRON, KEALING.

AUSTIN INDEPENDENT SCHOOL DISTRICT  
Office of Research and Evaluation

September 17, 1979

TO: Title I Contact Persons For Parental Involvement

FROM: David Doss

SUBJECT: Definitions Used in the Evaluation

I believe you have recently received a copy of the objectives for the Title I Parental Involvement Program from Alicia Talamantez. Those objectives outline the core of what the evaluation will be examining this year as far as parental involvement is concerned.

I would like to share with you some "understandings" that Lee Laws, Alicia, and I worked out to help clarify exactly what the evaluation will use in determining what is and what is not a parent-training session. The understandings are included on the attached page.

As you can see, the minutes and agendas are crucial to an accurate evaluation of this component. Please make an effort to see that these documents clearly relate the type of activities which occur at your meetings.

If you have any questions about the attached agreements, please call me at 458-1223.

Approved:

Jonathan Curtis  
Senior Evaluator for Compensatory Education Programs

Approved:

Grada M. Holley  
Director of Office of Research and Evaluation

Approved:

M. C. Borden  
Director of Elementary Education

DD:lfs

cc: Lee Laws  
Alicia Talamantez  
Title I Reading Coordinators  
Title I Principals

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AUSTIN INDEPENDENT SCHOOL DISTRICT  
Office of Research and Evaluation

"UNDERSTANDINGS" CONCERNING PARENT TRAINING

1. At the local campus level, only those parent-training sessions organized by the Title I community representatives or campus contact persons will be counted.
2. Parent-training sessions may be held at the time of local PAC meetings or separately. The determination of whether or not a meeting is considered to involve parent training will be based on the meeting agenda and minutes.

Items such as the following are considered regular PAC business and do not qualify the meeting as a parent-training session.

- a. Review of Title I Application.
- b. Review of Title I regulations.
- c. Review of Title I budget.
- d. Election of PAC officers.
- e. Reports from Districtwide PAC meetings.
- f. Evaluation reports.
- g. Distribution of required information (Title I law, regulations, etc.).

Presentations such as the following would be considered parent-training.

- a. An in-depth presentation about one Title I component.
- b. A presentation on a topic of interest to the parents such as the following:
  - how to help their children with reading
  - discipline
  - what is Title I?
  - a description of the school's Title I program

If parent-training sessions are held separately from PAC meetings at either level, we will need a description and list of parents who attended.

ESEA Title I/Title I Migrant

Appendix F

PARENT SURVEY

## Instrument Description: Parent Survey

Brief description of the instrument:

The Parent Survey is a five-item survey in English and Spanish. It was intended to obtain information about the ways in which parents want to be involved in the Title I/Migrant Program and their child's education. On four items, parents could check more than one response. The remaining item was "Yes" or "No" in format.

To whom was the instrument administered?

The survey was mailed to parents of 319 randomly chosen Title I students and 84 randomly chosen Migrant Program students. Additionally 25 students were randomly selected from the two schoolwide project schools.

How many times was the instrument administered?

Once, with a reminder sent to those who failed to respond.

When was the instrument administered?

January, 1982.

Where was the instrument administered?

The survey was mailed to the home address of the students in the sample.

Who administered the instrument?

It was self-administered. Either parent (mother or father) could fill it out.

What training did the administrators have?

None.

Was the instrument administered under standardized conditions?

No.

Were there problems with the instrument or the administration that might affect the validity of the data?

Parents who failed to return the survey may differ from those who actually did respond.

Who developed the instrument?

ORE staff - with review and input from other District personnel.

What reliability and validity data are available on the instrument?

None.

Are there norm data available for interpreting the results?

No.

## PARENT SURVEY

## Purpose

Information from the Parent Survey was used to answer the following:

## Title I Regular

Decision Question D6: Should the Title I Parental Involvement Component be modified? If so, how?

Evaluation Question D6-4: How would parents prefer to be involved in PAC's in future years? (What would they like to have included on PAC agendas, for example?)

## Title I Migrant

Decision Question D4: Should the Parental Involvement Component be continued as it is, modified, or deleted?

Evaluation Question D4-5: How do Migrant Program parents want to be involved in the Migrant Program?

## Procedure

Prior to developing the Parent Survey, the Title I Evaluator and Intern and the Migrant Evaluator met with the Parental Involvement Specialist and the community representatives in order to generate ideas for the survey. In order to survey a larger number of parents, a mailout survey was chosen, rather than an interview.

It was considered easier for parents if items with which they agreed could be simply checked. Rating scales and mutually exclusive "best-choice" formats were ruled out as too confusing or arbitrary. Hence, all responses on the survey are not independent of each other. Respondents could check more than one response per item. For this reason, the data were coded in a binary format--the respondent either checked or did not check a response of interest. The questionnaire and cover letter were also translated into a Spanish version such that the English and Spanish version each occupied one side of a single page (See Attachment F-1). Principals were also sent a memo notifying them of the survey effort and a copy of this memo is included in Attachment F-1.

A random sample of 84 preK-6th grade Migrant students was chosen first, with the restriction that no more than one child per family be chosen. Then parents of an additional 319 K-6th grade Title I students were chosen from the 26 regular Title I schools, along with 25 more from Allison and Becker. For the Title I sample, no students who were sampled for Migrant and no more than one child per family were chosen.



The 425 questionnaires were all sent with return postage and envelopes, but mailout and return procedures varied in a 2 X 2 design. The surveys were mailed in late January. One half of the surveys were sent in a bulk mailing, and the other half were stamped. In addition, one half were sent with stamped return envelopes, and the remainder had metered return envelopes.

Since survey research has also shown that a follow-up letter boosts the return rate significantly, a bulk mailing follow-up letter was sent approximately four weeks after the initial letter. This letter is shown in both English and Spanish in Attachment F-2. Follow-up letters were sent to all parents except those who had already responded. In some cases, both parents returned a copy of the questionnaire, having received the original and the follow-up letters. These were counted as two respondents.

### Results

Of the 425 questionnaires mailed, 408 were delivered to homes, and 17 were returned undeliverable. Eighty-one questionnaires were sent and delivered to Migrant parents, 319 were sent to regular Title I parents (not in school-wide projects) with 303 delivered, and 25 were sent to Title I parents whose children were in schoolwide projects, with 24 delivered.

Of the 408 delivered, 113 were returned in time to be included in this report, for a final return rate of 27.7 percent as shown in Attachment F-3. These 113 respondents will make up the total responses that will be discussed here. Of these 113 questionnaires, 18.6 percent were from Migrant parents, 76.1 percent from regular Title I parents, and 5.3 percent from schoolwide project parents. This return rate is similar to the percentages of the sample as a whole. Hence, each group of parents responded at the same rate, about a 28 percent return rate.

No reliable differences were seen in the frequency of any of the responses as a function of type of program (Regular Title I, Migrant, or Schoolwide projects). Attachment F-4 shows the number and percentage of parents who endorse each of the alternatives on the questionnaires for all three groups of parents combined.

Fourteen percent of the respondents replied using the Spanish version of the questionnaire, while 86 percent responded using the English version. These frequencies were significantly different as a function of the child's program. Of the total number of Migrant parents answering the questionnaire, 28.6 percent answered in Spanish. The percentage of respondents who did not indicate which parent they were was 9.7, while 2.7 percent were grandmothers, 4.4 percent were fathers, and 83.2 percent were mothers, as shown in Attachment F-3.

Not surprisingly, 85.8 percent of the respondents had attended a PAC meeting before, at least once. Parents who attend PAC meetings might be more likely to return such a questionnaire than parents who do not attend PAC meetings.

When asked what things they would most want to do to be part of the Title I/Migrant Program, the respondents' top two choices were: 44.2 percent saying they would like to help at the school, and 45.1 percent saying they would like to attend parent-training workshops. Thirty-two and seven-tenths percent said that they would like to go to PAC meetings.

When asked what would make PAC meetings more enjoyable to them, 52.2 percent responded by saying if more ways to help children were taught in meetings; 31.0 percent said if the meetings were held on weekends that this would help; 18.6 percent indicated that babysitting services would be welcome, while 17.7 percent expressed a desire to talk more with other parents.

When asked how they would most like to help out at their child's school, 42.5 percent indicated they would help with school events such as plays, carnivals and trips; 38.1 percent expressed a general desire to do whatever the school needed; while 34.5 percent said they would help the teachers with preparing materials, decorations, etc; 27.4 percent said they would help with the children.

When asked what things they would most like to receive training in, 58.4 percent said helping their child read at home; 38.1 percent said they would like to be trained to help their child with math at home; 34.5 percent wanted training in helping their child behave. Other items mentioned were: 35.4 percent wanted training in asking questions about how their child was doing and 29.2 percent said they would like training in learning games they could play at home with their children.

Attachment F-1

CORRESPONDENCE ABOUT PARENT SURVEY

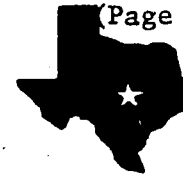
(Page 1 of 6)

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Attachment F-1

(Page 2 of 6)

**AUSTIN INDEPENDENT SCHOOL DISTRICT**  
OFFICE OF RESEARCH AND EVALUATION



January 15, 1982

Dear Parents:

We are interested in finding out how parents would like to be involved with their children's education.

Your answers in this questionnaire will help the School District to set up programs that will increase parent participation in Austin schools.

It should only take a few minutes to answer the enclosed questionnaire. Please mail it back as soon as possible. We are also enclosing a self-addressed, stamped envelope to help with the return.

If you have any questions, please call Catherine Christner at 458-1227.

Your answers are very important to us.

Thank you for your time.

Sincerely,

Freda M. Holley, Ph.D.  
Director, Office of Research and  
Evaluation

FMH:lg

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Enero 15, 1982

Padres de familia:

Estamos interesados en saber como los padres de familia quieren estar involucrados en la educación de sus niños.

Sus respuestas a este cuestionario le ayudarán al Distrito Escolar a establecer programas que puedan aumentar la participación de padres en las escuelas de Austin.

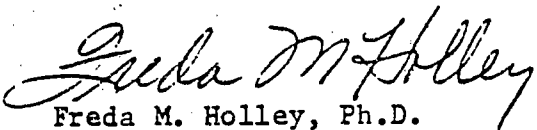
Le llevará solamente unos minutos para contestar este cuestionario. Por favor mándelo lo antes posible. Incluimos un sobre rotulado con estampilla para ayudarle a regresarlo.

Si usted tiene preguntas, por favor llame a C. Berine Christner al teléfono 458-1227.

Para nosotros, sus respuestas son muy importantes.

Muchas gracias por su tiempo.

Sinceramente,



Freda M. Holley, Ph.D.  
Director, Research and Evaluation

FMH:lg

mother \_\_\_\_\_  
or  
ARE YOU THE father \_\_\_\_\_

1. HERE ARE SOME WAYS PARENTS MIGHT BE A PART OF THE TITLE I/MIGRANT PROGRAM. CHECK THE *two* THINGS YOU WOULD LIKE TO DO THE MOST.

\_\_\_\_ Help at my child's school  
\_\_\_\_ Go to parent-training workshops  
\_\_\_\_ Help other Title I/Migrant parents  
\_\_\_\_ Go to Parent Advisory Council (PAC) meetings  
\_\_\_\_ Other - please put down another way you want to be involved \_\_\_\_\_

2. HAVE YOU EVER ATTENDED A PARENT ADVISORY COUNCIL MEETING? YES \_\_\_\_\_ NO \_\_\_\_\_

3. WHAT WOULD MAKE PARENT ADVISORY COUNCIL MEETINGS MORE ENJOYABLE FOR YOU? PLEASE CHECK WHICH ONES YOU WOULD LIKE.

\_\_\_\_ If the meetings were shorter  
\_\_\_\_ If babysitting were provided  
\_\_\_\_ If a ride was provided  
\_\_\_\_ If there were more guest speakers  
\_\_\_\_ If I got to talk more with other parents  
\_\_\_\_ If the meetings were held during the day  
\_\_\_\_ If the meetings were held on the weekends  
\_\_\_\_ If we were taught more ways to help our children  
\_\_\_\_ If the meetings were more interesting  
\_\_\_\_ Anything else? Please name here \_\_\_\_\_

4. IF YOU HAD YOUR CHOICE OF WAYS TO HELP OUT AT YOUR CHILD'S SCHOOL, WHAT THINGS WOULD YOU LIKE TO DO? PLEASE CHECK THE ONES YOU WOULD LIKE TO DO.

\_\_\_\_ Work with the children  
\_\_\_\_ Help the teachers (prepare materials, decorate room, etc.)  
\_\_\_\_ Work with other parents  
\_\_\_\_ Help with school events (carnivals, plays, trips, etc.)  
\_\_\_\_ Help in the school office (type, call people, copy materials, etc.)  
\_\_\_\_ Work in the library  
\_\_\_\_ Do whatever the school needs most  
\_\_\_\_ Anything else? Please name here \_\_\_\_\_

5. FOR THE TOPICS LISTED BELOW, PLEASE CHECK THE *three* THINGS YOU WANT TRAINING IN THE MOST.

____ Helping my child read at home	____ Making learning games I can play with my child at home
____ Helping my child with math at home	____ Learning about possible jobs and careers for my child
____ Talking with children	____ Learning about cultural or community history
____ Keeping my child healthy	____ Asking questions about how my child is doing in school
____ Helping my child behave	____ Anything else? Please name here _____
____ Rewarding my child	
____ Understanding my child's tests	

ES LISTED      Madre \_\_\_\_\_  
                                o  
                                Padre \_\_\_\_\_

1. AQUI HAY VARIAS MANERAS EN QUE LOS PADRES PUEDEN PARTICIPAR EN LOS PROGRAMAS DEL TITULO I/ MIGRATORIO, MARQUE LAS DOS COSAS QUE A USTED LE GUSTARIA HACER.

Ayudar en la escuela de mi niño(niña)

Ir a una sesión de entrenamiento para los padres

Ayudar a otros padres del Titulo I/Migratorio

       Ir a las juntas del Consejo de padres de familia.

Otro - escriba otras maneras en que usted quisiera participar

2. ¿ HA PARTICIPADO USTED EN UNA JUNTA DEL CONSEJO DE PADRES DE FAMILIA? SI \_\_\_\_\_ NO \_\_\_\_\_

3. ¿QUÉ HARÍA LAS JUNTAS DEL CONSEJO DE PADRES DE FAMILIA MAS AGRADABLES PARA USTED? MARQUE LOS QUE A USTED LE GUSTARIAN MAS.

Si las juntas fueran mas cortas

\_\_\_\_ ¿Alguna otra cosa? Por favor escríbala aquí

Si hubiera cuidado de niños

Si hubiera transportación

Si hubiera conferenciantes visitantes

Si platicara mas con otros padres

Si las juntas se llevarán acabo durante el día

Si las juntas se llevaran acabo durante el fin de semana

Si nos enseñaran mas maneras de ayudar a nuestros niños

Si las juntas fueran mas interesantes

4. SI USTED PUDIERA ESCOGER MANERAS DE AYUDAR EN LA ESCUELA DE SU NIÑO, QUE COSAS LE GUSTARIA HACER?  
POR FAVOR MARQUE LAS COSAS QUE LE GUSTARIA HACER.

## Trabajar con los niños

Ayudar a los maestros (a preparar materiales, decorar el cuarto, etcétera)

Trabajar con otros padres

Ayudar con los eventos de la escuela (carnavales, obras de teatro, viajes, etcétera)

Ayudar en la oficina de la escuela (escribir a máquina, hacer llamadas por teléfono)

Trabajar en la biblioteca

Ayudar en la escuela en cualquier manera necesaria

¿Alguna otra cosa? Por favor escribala aquí

5. DE LA LISTA A CONTINUACION, MARQUE LAS TRES AREAS EN LA QUE USTED MAS QUISIERA ENTRENAMIENTO.

Ayudar a mi niño(niña) a leer en la casa

— Aprender sobre posibles trabajos o carreras para mi niño(niña)

Ayudar a mi niño(niña) con las matemáticas en la casa

— Aprender sobre cultura o historia de la comunidad

Hablar con niños y niñas

Mantener la salud de mi niño(niña)

\_\_\_\_\_ Hacer preguntas sobre como mi niño(ña) esta funcionando en la escuela

Ayudar a mi niño(niña) con su comportamiento

— Hacer juegos de aprendizaje que pueda a  
jugar con mi niño(niña) en la casa

Recompensar a mi niño(niña)

¿Alguna otra cosa? Por favor escríbala aquí

Comprender los exámenes de mi niño(niña)

AUSTIN INDEPENDENT SCHOOL DISTRICT  
Office of Research and Evaluation

December 3, 1981

TO: Principals of Title I/Migrant Program Schools  
FROM: Karen Carsrud, Catherine Christner, Joe Burleson  
SUBJECT: Parent Involvement Questionnaire

The Office of Research and Evaluation will be sending a questionnaire to a sample of Title I/Migrant parents in early January, 1982. Enclosed is a copy of the questionnaire and cover letter to be sent to the parents.

The purpose of the questionnaire is to determine how to encourage and increase parental involvement in the Title I/Migrant Program and in the schools. We are hopeful that the results of the questionnaire will be of use to the District in planning for future parental involvement activities.

Please feel free to direct any questions from parents to us, at 458-1227.

Thank you for your help.

Approved: *Stella Hall*  
Director of Office of Research and Evaluation

Approved: *Kath MacAllister*  
Assistant Superintendent of Elementary Education

KC:CC:JB:lfs

cc: Timy Baranoff  
Hermelinda Rodriguez  
Oscar Cantu

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Attachment F-2

FOLLOW-UP LETTER TO PARENTS

(Page 1 of 3)

81.33

Attachment F-2  
(Page 2 of 3)**AUSTIN INDEPENDENT SCHOOL DISTRICT**

OFFICE OF RESEARCH AND EVALUATION



February 5, 1982

Dear Parents:

A short time ago we sent you a questionnaire to find out how parents would like to be involved with their children's education and with the Title I and Migrant programs in AISD.

If you have not sent your questionnaire in yet, we would still like you to do so. Enclosed is another copy of the questionnaire, along with a return envelope for your convenience. *Of course, if you have sent it in already, you do not need to send another!*

If you have any questions, please call Catherine Christner at 458-1227.

Your answers are very important to us.

Thank you for your time!

Sincerely,

Freda M. Holley, Ph.D.  
Director, Research and Evaluation

FMH:lg  
Enclosure

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Febrero 5, 1982

Padres de familia:

Hace poco tiempo que les enviámos un cuestionario para enterarnos como los padres de familia quieren estar involucrados en la educación de sus niños y con los programas del Título I y Migrante en el Distrito Escolar de Austin.

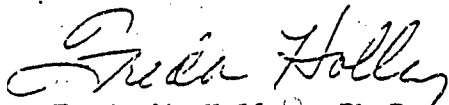
Si usted no ha mandado su cuestionario todavía, nos gustaría que lo hiciera. Incluido esta otra copia del cuestionario junto con un sobre rotulado con estampilla para que los regrese. *Naturalmente, si usted ya lo regresó, no es necesario que usted envíe otro.*

Si acaso usted tiene preguntas, por favor llame a Catharine Christner al telefono 458-1227.

Sus respuestas son muy importante para nosotros.

Muchas gracias por su tiempo.

Sinceramente,



Freda M. Holley, Ph.D.  
Director, Research and Evaluation

FMH:lg

## Title I/Migrant Parent Survey

1. Questionnaires mailed:		Number	Percent
Delivered to homes:		408	96.0
Returned undelivered:		<u>17</u>	<u>5.0</u>
Total		425	100.0
2. Questionnaires delivered:			
Migrant parents:		81	19.9
Title I parents:		303	74.3
Schoolwide project parents:		<u>24</u>	<u>5.9</u>
Total		408	100.0
3. Questionnaires completed:			
Migrant parents:		21	18.6
Title I parents:		86	76.1
Schoolwide project parents:		<u>6</u>	<u>5.3</u>
Total		113	100.0
4. Respondent's Role:			
Mother:		94	83.2
Father:		5	4.4
Grandmother:		3	2.7
Unknown:		<u>11</u>	<u>9.7</u>
Total		113	100.0
5. Project by Language return rates:			
	English	Spanish	Totals
Title I	78	8	86
	72.9	7.5	80.4
Migrant	15	6	21
	14.0	5.6	19.6
Totals	93	14	107 (number)
	86.9	13.1	100.0 (percent)

<u>Question</u>	<u>Response Item</u>	<u>Number of Percentage</u>	
		<u>Responses</u>	<u>Response</u>
How would you most like help with the Title I/Migrant program?	Help at school	50	44.2
	Go to workshops	51	45.1
	Help parents	10	8.8
	Go to PAC meetings	37	32.7
	Other	9	8.0
Have you attended a PAC meeting?	Yes	97	85.8
	No	16	14.2
How can PAC meetings be more enjoyable?	Shorter meetings	8	7.1
	Babysitting	21	18.6
	Transportation	15	13.3
	Guest speakers	15	13.3
	Talk with parents	20	17.7
	Daytime meetings	11	9.7
	Weekend meetings	35	31.0
	Taught to help children	59	52.2
	Meetings more interesting	14	12.4
How would you choose to help your child's school?	Other	7	6.2
	Work with children	31	27.4
	Help teachers	39	34.5
	Work with parents	11	9.7
	Help with school events	48	42.5
	Help in the office	20	17.7
	Work in the library	17	15.0
	Do whatever needed	43	38.1
	Other	4	3.5
In what area would you most want to be trained?	Helping child with reading	66	58.4
	Helping child with math	43	38.1
	Talking with children	19	16.8
	Keeping child healthy	24	21.2
	Helping child behave	39	34.5
	Rewarding child	12	10.6
	Understanding tests	24	12.2
	Making learning games	33	29.2
	Learning about jobs, careers	27	23.9
	Learning about culture, community	13	11.5
	Inquiring about child	40	35.4
	Other	3	2.7

ESEA Title I

Appendix G

PRINCIPAL INTERVIEW

## Instrument Description: Principal Interview

Brief description of the instrument:

The interview form consists of ten open-ended items administered orally. Each item consists of from one to two sentences or questions that allow for an unstructured response.

To whom was the instrument administered?

A sample of eight Title I principals.

How many times was the instrument administered?

Once.

When was the instrument administered?

March and April, 1982.

Where was the instrument administered?

In the principal's office.

Who administered the instrument?

The Title I evaluator.

What training did the administrators have?

None, other than previous interview experience.

Was the instrument administered under standardized conditions?

Although the number of interruptions was not the same for each interview, the order of questions was standardized. All prompts were also standardized.

Were there problems with the instrument or the administration that might affect the validity of the data?

No.

Who developed the instrument?

The Title I evaluator, with input from various Title I and ORE staff members.

What reliability and validity data are available on the instrument?

None.

Are there norm data available for interpreting the results?

No.

## PRINCIPAL INTERVIEW

## Purpose

There were no specific questions in the Evaluation Design that called for a principal interview. However, the evaluator received reports from other Title I staff that some schools experienced delays in starting the program, scheduling problems, etc. Furthermore, there was apparently a greater emphasis during 1981-82 than in previous years on providing Title I instruction in the regular classroom, rather than the reading lab. In order to explore problems and solutions encountered by schools, an interview with a sample of Title I principals seemed desirable.

## Procedure

A random sample of eight principals was drawn from all 28 Title I schools. These eight principals were then sent a memo and copy of the interview form (see Attachment G-1.) The interview form contained ten questions generated by the Title I Administrator and Title I Evaluator. The form was also reviewed by other District personnel before it was used.

Each principal was contacted to arrange a meeting at his or her school. The interviews all took place in the principal's office and took 30-50 minutes to complete. Some of the interview questions were not applicable to all of the schools and, thus, did not receive answers from all of the principals.

All of the interviews were conducted in March or early April -- four interviews took place before the spring vacation, and four took place after the spring vacation. An equal number of male and female principals were interviewed. Six of the eight schools were paired schools.

## Results

The responses of the principals are summarized below. Because some of the questions were related, responses are summarized by common theme, rather than by question number.

I. MOST SCHOOLS ARE DELIVERING TITLE I SERVICES IN THE CLASSROOM WHENEVER POSSIBLE.

Serving Title I students in the classroom presented some space, noise, and scheduling problems. However, one school was serving Title I students primarily in the reading lab because of a previous unsuccessful attempt to serve students in the classroom. At another school, the principal reported the classroom and Title I teachers did not like serving students in the classroom, although it was being done. (The noise was a problem because class sizes were large and classrooms were small.)



Nevertheless, most principals said that serving students in the classroom worked out, "Fine!" or "O.K." in spite of the problems. Classroom and Title I teachers were generally communicating well and apprehension about the procedure had lessened since the beginning of the year.

II. SOME SCHOOLS ARE NOT SERVING TITLE I STUDENTS ACCORDING TO THE USUAL DEFINITION OF SUPPLEMENTARY SERVICE.

Title I regulations require that Title I services supplement, rather than supplant, regular instruction of the Title I students. At least three of the seven regular Title I schools sampled were sending Title I students to reading instruction with a Title I teacher during the same time period that other students received reading instruction. The size of the Title I reading groups was generally reported as being smaller than the normal reading groups, so that Title I students might receive more individual attention. However, in at least one school, the Title I students were reported to be working with the Title I teacher instead of the regular classroom teacher. These students did not receive any of their reading instruction from the classroom teacher, except during other content areas.

III. ALL THE PRINCIPALS THOUGHT THE TITLE I PROGRAM WAS BENEFICIAL TO THEIR LOW-ACHIEVING STUDENTS.

Many of the principals at regular Title I schools felt that a schoolwide project method of implementing the Title I program would be more cost efficient. However, in the absence of a schoolwide project at their school, the principals still felt that the Title I services were important. The principal of the schoolwide project school was very enthusiastic about the program at that school.

IV. MOST OF THE PRINCIPALS EMPHASIZED THE IMPORTANCE OF HAVING TITLE I TEACHERS AND REGULAR TEACHERS SHARE PLANNING TIME.

Although one principal felt that there was little need for communication between Title I and classroom teachers, all others had made efforts to encourage this communication. Various activities included having Title I teachers: attend grade-level meetings, share lesson plans, use a form to track each child's progress, attend staff development activities, and participate in required formal planning meetings. Although informal communication was mentioned, formal structures for communication had evolved at most of the schools.

V. THERE WERE MIXED FEELINGS ABOUT THE NEED FOR TITLE I INSTRUCTIONAL COORDINATORS.

Principals indicated a great deal of respect for the skills of their particular coordinator, and the regular Title I school principals appreciated the help the coordinators provided with rules and record-keeping. However, four of the eight principals also suggested the possibility that the regular coordinators serving their schools could perform the tasks now done by the Title I coordinators, thus saving the additional expense of a separate Title I coordinator.

- VI. APPARENTLY, VERY FEW CHILDREN ARE CURRENTLY BEING SERVED BY MORE THAN ONE COMPENSATORY OR PULL-OUT PROGRAM.

Among low-achieving students, principals reported that special education children were generally being served by special education teachers. LEP students were assigned to a bilingual or ESL program if available. Remaining Migrant students were served by the Migrant Program when it was available. The Title I program thus attempted to serve the remaining low-achieving students who were not served by other programs.\*

- VII. ORE PROVIDES USEFUL INFORMATION TO THE SCHOOLS ABOUT THEIR TITLE I AND REGULAR PROGRAM, BUT IMPROVED ACCURACY ON ALL ROSTERS RECEIVED IN THE FALL WOULD HAVE BEEN HELPFUL.

Principals reported that many students enrolled at their school were not on the rosters provided by Title I or Systemwide Testing evaluation staff. Preregistration of students for 1982-83 and faster processing of enrollment changes should help in this area.

- VIII. ALL PRINCIPALS FELT VERY PREPARED FOR VISITS BY G.A.O. AND/OR TITLE I MONITORS.

One principal said she was "Overprepared, but I'm glad we were! The Twin Towers staff were rougher than T.E.A., although we really appreciated it."

- IX. MANY DIFFICULTIES ARISE FOR THE REGULAR TITLE I SCHOOL WHEN TITLE I TEACHERS ARE ABSENT.

Currently, no funds are available to hire substitute teachers when a Title I teacher is absent, even for fairly long-term absences. Several principals volunteered that absent Title I teachers presented problems for them and for their classroom teachers.

\* The 1981-82 Overlap Study indicated that less than 1 percent of Title I students were also served by Migrant, 9.7% were also served by Special Education, and 15.9% of Title I students were also receiving TBE or ESL instruction.

Attachment G-1

INTERVIEW OF TITLE I PRINCIPALS

(Page 1 of 6)

AUSTIN INDEPENDENT SCHOOL DISTRICT  
Office of Research and Evaluation

February 22, 1982

TO:

FROM: Karen Carsrud, Title I Evaluator

SUBJECT: Interview of Title I Principals

In an effort to find out what success stories and/or problems might have occurred with the Title I program this year, I would like to meet individually with a sample of Title I principals and get your personal comments. (Your comments will be kept confidential and shared only in a condensed form with those of other principals.)

Hopefully, this interview will not take too much of your time and by compiling the information, others may be able to learn some useful practices or pitfalls to avoid. In this way, the interview should eventually be cost effective in terms of effort saved!

I will be calling within a few days to see if you would be willing to meet with me at your convenience to talk about the Title I program at your school. I am enclosing a list of the questions that we would probably cover during the interview. Thus, you would have some time to think about your responses beforehand.

Your cooperation and willingness to share your experiences would be much appreciated.

Approved: *Jack Foley*

Director of Office of Research and Evaluation

Approved: *Ruth MacAllister*

Assistant Superintendent of Elementary Education

KC:lfs

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1. How would you describe the Title I program on your campus?

2. What problems did your school encounter with the Title I Program this year? (For example, late getting started, not enough teachers, needed more space for teachers to work with students, etc.)
3. Do you feel that the Title I Program is beneficial to your low-achieving students? Do the benefits outweigh the costs in terms of paperwork, planning, etc.?

4a. If your Title I teachers were working more in the regular classroom this year, how did it work out? Were there any particular problems or success stories?

4b. Do you have any suggestions about good ways to facilitate the communication between the regular classroom teachers and the Title I teachers?

5. How well-prepared did you feel for visits by G.A.O. monitors for Migrant and the T.E.A. monitors for Title I?

6. What strategies did you use to match students with a program, when they were eligible for multiple programs? (For example, Bilingual, Migrant, Special Education, or Title I?)
7. What type of staff development activities did you have with your staff this year concerning the Title I Program?
8. If you had a Title I Program last year, what things did you do differently this year? How did it work out? (If not Title I last year: did you do anything innovative or unusual this year that worked out well? For example, unique scheduling, coordination, or communication.)

9. How can the Instructional Coordinators for Title I Reading best help you with your Title I Program?

10. What information can ORE provide to help you with your Title I Program?



81.33

ESEA Title I

Appendix H

METROPOLITAN READINESS TESTS

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H-1

Brief description of the instrument:

Eight tests that measure the skills needed in beginning reading and mathematics. These tests can be grouped into the following skills areas: auditory, visual, language, and quantitative. The battery composite contains a total of 97 items. The quantitative subscale is the only one not included in the Pre-reading Composite Score.

To whom was the instrument administered?

All first-grade students.

How many times was the instrument administered?

Once, to all first-grade students.

When was the instrument administered?

September 8-11, 1981. Make-up tests were administered September 16-18.

Where was the instrument administered?

In the classroom.

Who administered the instrument?

The classroom teacher.

What training did the administrators have?

Written instructions from ORE were provided to the counselor and principal. Any teacher inservice training that occurred was the responsibility of the counselor or principal on each campus.

Was the instrument administered under standardized conditions?

Standardized instructions were distributed. Individual variations in administration procedures may have occurred.

Were there problems with the instrument or the administration that might affect the validity of the data?

No known problems.

Who developed the instrument?

The 1933 version was developed by Dr. Gertrude H. Hildreth; the 1976 version was written by Joanne R. Nurss and Mary E. McGauvran.

What reliability and validity data are available on the instrument?

Reliability and validity data are available in the Teacher's Manual, Part II on pp. 24-25. The reliability of the Form P subtests, as summarized by Kuder-Richardson Formula 20 coefficients and split-half correlations, range from .72 to .95.

Are there norm data available for interpreting the results?

The standardizing sample of 18,002 first graders was chosen to represent a variety of geographic regions, community sizes, and socio-economic levels, from 17 school districts. The norming study, completed in fall, 1974, was fairly representative.

## METROPOLITAN READINESS TESTS

## Purpose

Results of the Metropolitan Readiness Tests (MRT) were used to answer the following decision and evaluation questions from the Title I Evaluation Design for 1980-81.

Decision Question D-2: Should Title I schoolwide projects be continued, expanded or revised? If so, how?

Evaluation Question D2-2: How did the achievement gains made by low-achieving students (30th percentile or below) in the schoolwide projects compare with the gains made by low-achieving students in regular Title I schools?

Evaluation Question D2-3: How did achievement gains made by high-achieving students (above 30th percentile) in the schoolwide projects compare with the gains made by high-achieving students in regular Title I schools?

Decision Question D-3: Should the Rainbow Kit project be continued, modified, or discontinued?

Evaluation Question D3-1: Did the achievement gains of Rainbow Kit participants exceed those of nonparticipants in the control group?

Decision Question D-4: Should the Title I Early Childhood Education Program be continued, modified, or discontinued? If so, how?

Evaluation Question D4-2: Do former prekindergarten participants score higher than other students in their schools when they reach higher grade levels?

The information gathered was used in partial fulfillment of Information Needs I-2, I-3, I-4, and I-7 for the 1981-1982 Needs Assessment.

I-2: How similar are the results when the schools are ranked for Title I eligibility in the various ways possible under the Title I regulations?

I-3: How many students in each school scored below selected percentile points on the MRT and ITBS?

I-4: How many students would be eligible for Title I services for various combinations of criteria for campus and student eligibility?

I-7: Were the objectives of the Title I Program met?

### Procedure

The Metropolitan Readiness Tests were administered to all AISD first-graders during the period of September 8-11, 1981. Make-up tests were given the following week. Teachers scored the MRT and forwarded the results to ORE. Details about the testing, scoring, and processing of the data are contained in the Final Technical Report: Systemwide Evaluation.

### Results

The results for evaluation question D2-2, D2-3, and D3-1 and Information Need I7 are contained in Appendix B of this report. Results for Information Needs I-2, I-3, and I-4 are reported in the 1982-83 Chapter I Needs Assessment (publication #81.48.)

Evaluation Question D4-2: Do former prekindergarten participants score higher than other students in their school when entering kindergarten or first grade?

Information about this question was provided by comparing MRT raw scores of 1981-82 first graders who had participated in Title I prekindergarten classes with scores of their peers who did not receive any prekindergarten, resided in traditional Title I attendance areas, and had attended the same kindergarten schools that the prekindergarten students attended. These students were used because they should provide a group similar in socio-economic status to the former pre-K students. The pre-reading composite raw score was compared for the two groups using the ANOVA package of the SPSS package. The results presented in Figure H-1 show the MRT means for two groups. Figure H-2 shows the average percentile ranks of the two groups at the beginning of kindergarten (Boehm Test of Basic Concepts) and again at the beginning of first grade. Results indicate that the advantage for former prekindergarten students that is present at the beginning of kindergarten is no longer present by the beginning of first grade.

These results are consistent with those found for former pre-K first-graders in 1980-81. Although caution must be used in comparing percentiles from the two tests (Boehm and MRT), Figure H-2 probably does indicate accurately the relative gap between the two groups.

Group	N	Mean	F	p
Former Pre-K	83	47.88	.274	.601
Comparison Group	146	46.85		

Figure H-1. COMPARISON OF SEPTEMBER, 1981 MRT SCORES OF FORMER TITLE I PRE-K STUDENTS AND A COMPARISON GROUP.

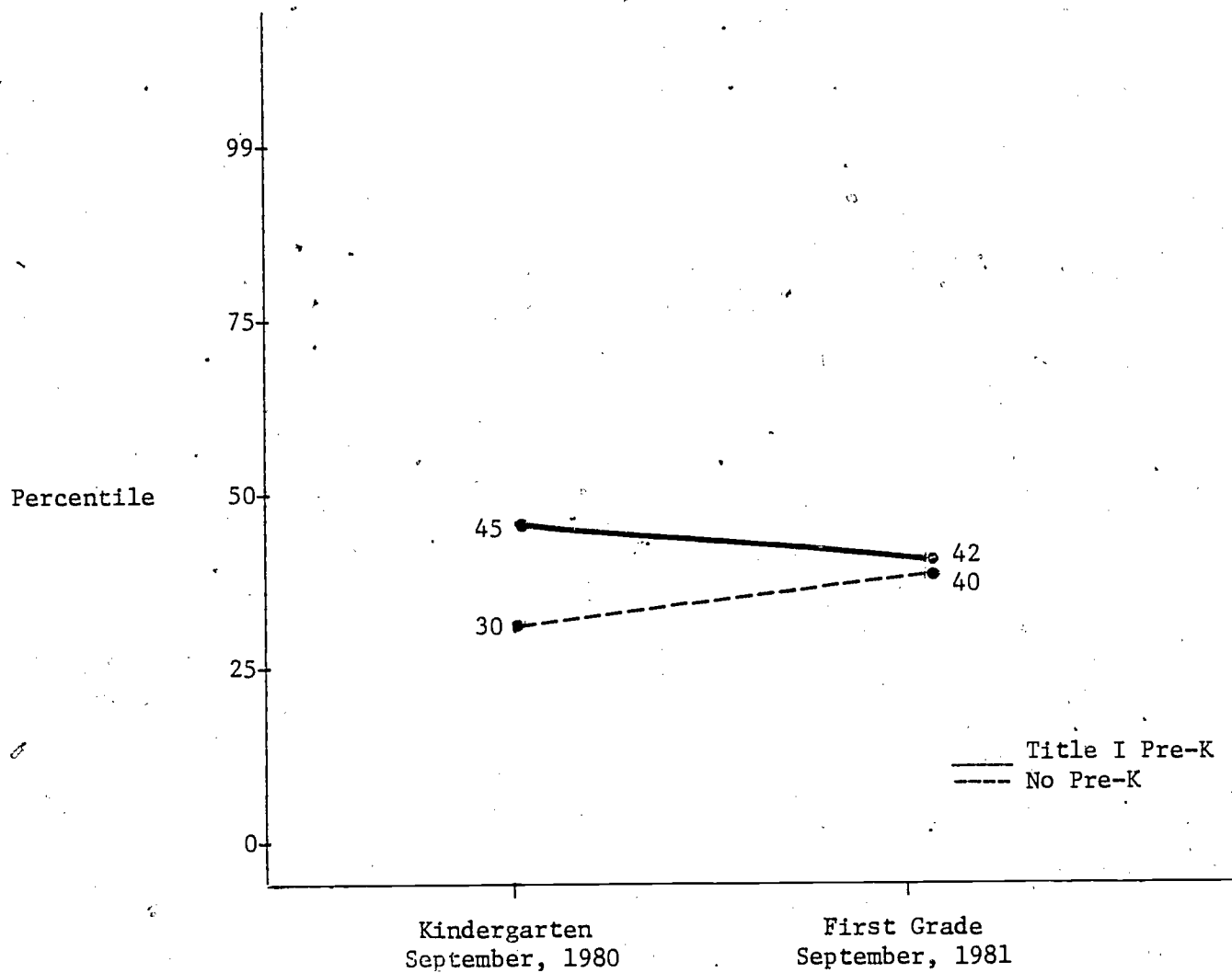


Figure H-2. PERCENTILE RANKS OF MEAN SCORES FOR FORMER TITLE I PRE-K STUDENTS AND A COMPARISON GROUP OF NONPARTICIPANTS, FROM SEPTEMBER, 1980 TO SEPTEMBER, 1981.

ESEA Title I

Appendix I

PREKINDERGARTEN LONGITUDINAL FILE

Brief description of the data file:

Boehm, MRT, and ITBS parcensile scores were added to a file containing students who were at one time in a District prekindergarten program (1978-79, 1979-80, 1980-81). Codes for Migrant and Title I service were added for each year after the prekindergarten year.

Which students or other individuals are included on the file?

Any students who were in an AISD prekindergarten class in the past 4 years.

How often is information on the file added, deleted, or updated?

Information was added during creation, but new information should now be added to each year.

Who is responsible for changing or adding information to the file?

The Title I and Title I Migrant Evaluators, and the Title I Programmer.

How was the information contained on the file gathered?

The file was merged with the various achievement test files and pre-k program files.

Are there problems with the information on the file that may affect the validity of the data?

It was difficult to find student ID numbers for some students on the file. Thus, it was not always possible to add their later achievement test scores.

What data are available concerning the accuracy and reliability of the information on the file?

The reliability information concerning the achievement test information can be found in the various technical reports for each year a particular test was given.

Are there normative or historical data available for interpreting the results?

Yes. This file itself is a historical record. There are national norms available for all of the tests, as well as districtwide data for AISD students who took the tests.

Brief description of the file layout: (also attached)

The file contains student information (ID, name, birthday, ethnicity), and a code to indicate which pre-K program a student attended. The year a student attended pre-K, and his or her prekindergarten pre- and posttest scores (if available) are included. Finally, fall and spring test scores follow for 1979-80, 1980-81, and 1981-82. (The file also contains Title I or Migrant status for 1979-80, 1980-81, and 1981-82.)

## PREKINDERGARTEN LONGITUDINAL FILE

## Purpose

The prekindergarten longitudinal file was created to provide information relevant to the following decision and evaluation questions:

## Title I Regular

Decision Question D4: Should the Title I Early Childhood Program be continued, modified, or discontinued? If so, how should it be modified?

Evaluation Question D4-2: Do former pre-k participants score higher than other students in their schools when they reach higher grade levels?

## Title I Migrant

Decision Question D1: Should the Prekindergarten Instructional Component be continued as it is, modified, or deleted?

Evaluation Question D1-4: What have been the long-term effects of participation in the Migrant Pre-k Component on Migrant Program students' achievement?

## Procedure

The following is a list of prekindergarten programs that were included on the file:

- 4 years of Title I (78-79, 79-80, 80-81, 81-82)
- 4 years of Migrant (78-79, 79-80, 80-81, 81-82)
- 3 years of Happy Talk (78-79, 79-80, 80-81)
- 1 year of At-Home (80-81)
- 2 years of Title VII (80-81, 81-82)

The individual files were combined into one large file. The student ID number, name, program type, program year, pretest score and posttest score were kept where available. The file was then matched with the Student Master File to add current school, birthday, and ethnicity. Test scores were added for each year (if the student took the test that year), as shown on the next page.

Comparison-group students were students who attended Title I schools for 1981-82, who reside in traditional Title I areas, and who did not participate in any District prekindergarten program. Traditional Title I areas are AISD attendance areas where students would have been assigned to a Title I school other than Mathews in 1979-80. Most, but not all, of these traditional Title I areas still feed into Title I schools. Areas with a extremely high percentage of low income students are most likely to still be



Title I areas for 1981-82. However, many students currently assigned to Title I schools do not reside in these traditionally low-income areas, but instead are assigned to the Title I school for desegregation purposes. Students from these non-low-income areas were thus omitted from the comparison group.

Grade	Year/Test			
	78-79	79-80	80-81	81-82
EC	x	x	x	x
K		Boehm/Boehm	Boehm/Boehm	ITBS/ITBS
1			MRT/ITBS	MRT/ITBS
2				/ITBS

The Title I and Migrant service status was then added for 79-80, 80-81 and 81-82. Attachment I-1 is a copy of the file layout for the file.

### Analyses

The analyses on the prekindergarten students used three sources of information. For students who had previously participated in a District prekindergarten program, the median percentiles for each year were calculated from the pre-k longitudinal file. The medians for the comparison group (i.e., students who had no pre-k but were from traditional Title I areas) were calculated from the two-year ITBS file used in the other portions of the Title I evaluation. The Districtwide medians came from Systemwide Testing reports or files. Medians were used (instead of means) so that results could be easily compared with national and local norms.

### Results

Figure I-1 shows the results of the analyses. In general, the results support findings of previous years that students who have participated in a District prekindergarten program begin kindergarten scoring above comparable students who have not participated in a District pre-k program. Previous Title I technical reports, and Appendix H of this report, have reported that this advantage for pre-k students was lost by the beginning of first grade. In Figure I-1, it is apparent that the advantage has not re-emerged by the end of grade 1 or grade 2. Gains of these students should be followed in future years in order to determine if their initial advantage over their peers does become evident at a later date.

## MEDIAN PERCENTILES

Pre-K Year	Test Year	Test	District Pre-K			Whole District
			Title I	Migrant	None <sup>1</sup>	
1978-79	Fall, 1979	BTBC	50 (N=28)	30 <sup>2</sup> (N=12)	N/A	50 •
	Fall, 1980	MRT	30 <sup>2</sup> (N=53)	36 (N=83)	N/A	51 •
	Spring, 1981	ITBS (R.T.)	38 (N=45)	41 (N=76)	47* (N=735)	63 •
	Spring, 1982	ITBS (R.T.)	38 (N=47)	40 (N=76)	38* (N=916)	62 •
1979-80	Fall, 1980	BTBC	40 (N=79)	30 (N=92)	N/A	N/A
	Fall, 1981	MRT	43 (N=76)	36 (N=75)	42* (N=862)	55 •
	Spring, 1982	ITBS (R.T.)	50 (N=72)	47 (N=73)	41* (N=972)	62 •
1980-81	Fall, 1981	ITBS (L.)	23* (N=112)	18* (N=161)	17* (N=647)	29 •
	Spring, 1982	ITBS (L.)	26* (N=126)	26* (N=178)	26* (N=817)	50 •

Comparison group of students from traditional Title I areas.

"N" was very small here - many Migrant students' had not enrolled by the time fall testing was conducted.

N/ Not available from available reports or files.

\* From Title I achievement files, rather than pre-k longitudinal files.

From Systemwide Testing files or reports.

Key: BTBC = Boehm Tests of Basic Concepts  
MRT = Metropolitan Readiness Tests  
ITBS = Iowa Tests of Basic Skills  
(R.T.= Reading Total; L.= Language Total)

Figure I-1. MEDIAN PERCENTILES FOR STUDENTS IN MIGRANT, TITLE I, OR NO DISTRICT PRE-K PROGRAMS, WHEN THEY REACH HIGHER GRADE LEVELS.

Attachment I-1  
File Layout for  
Pre-K Longitudinal File  
(page 1 of 4)

## FILE LAYOUT

☒ LABELED ☐ UNLABELED

TAPE NO. 1060

BY: Karen Goforth

BLOCKSIZE 4050 CHARACTERS

RECORD SIZE 138 CHARACTERS

DATE CREATED:

SUG. SCRATCH DATE: NEVER!

DENSITY 1600 BPI

SEQUENCE id

DESCRIPTION Pre-K longitudinal file 81-82

REMARKS N=1257; 714 with '82 scores

NO. of COLUMNS COLS. FROM TO			DATA FORMAT	FIELD NAME	REMARKS
7	1	7	numeric	student ID	69 0 ID's
21	8	28	alphanumeric	name	
6	29	34		birthday	mmddyy
3	35	37		school	81-82
1	38			ethnicity	78-81 old codes 81-82 new codes
1	39			program type	1=TI 3=HT 5=HT cntl 2=MG 4=T7 6=At Home
1	40			test type	1=TOBE 2=PPVT 3=ITPD
1	41			program year	1=78-79, 2=79-80, 3=80-81, 4=81-82
3	42	44		program school	year of program (post)
1	45			valid scores	6=valid
1	46			test language	1=English 2=Spanish
2	47	48		raw score	
2	49	50		%ile	pre
3	51	53		scale	
2	54	55		raw score	
2	56	57		%ile	post
3	58	60		scale	
1	61			grade	
3	62	64		school	
1	65			valid	Fall 1979
2	66	67		raw score	Boehm K EV4BHM03
2	68	69		percentile	

☒ LABELED ☐ UNLABELEDLABEL ID EV8PREKL TAPE NO. 1060BLOCKSIZE 4050 CHARACTERSRECORD SIZE 138 CHARACTERSBY: Karen Goforth

DATE CREATED: \_\_\_\_\_

SUG. SCRATCH DATE: NEVER!DENSITY 1600 BPISEQUENCE 1dDESCRIPTION Pre-K Longitudinal File 81-82REMARKS N=1257; 714 with 82 scores

NO. OF COLS.	COLUMNS FROM	TO	DATA FORMAT	FIELD NAME	REMARKS
3	70	72		scale	1979 continued
1	73			grade	
3	74	76		school	
1	77			valid	Spring 1980
2	78	79		raw score	Boehm K EV4BHM09
2	80	81		percentile	
3	82	84	I-7	score scale	
1	85			grade	Fall 1980
3	86	38		school	
1	89			valid	
2	90	91		raw score	Fall 1980
2	92	93		%ile	Boehm K EV4BHM05
3	94	96		scale	MRT 1 EV4MRT03
1	97			grade	
3	98	100		school	Spring 1981
1	1			valid	Boehm K EV4BHM06
3	2	4		raw score	ITBS 1 EV4ITBS2
2	5	6		%ile	
3	7	9		scale	
1	10			grade	K=K
3	11	13		school	Fall 1981
1	14			valid	ITBS K EV4ITBS4
3	15	17		raw score (left justified)	MRT 1 EV4MRT04
2	18	19		%ile	
3	20	22		scale (Not for K)	
1	23			grade	K=0
3	24	26		school	
1	27			valid (Blank if valid)	Spring 1982
3	28	30		raw score	ITBS K (Language)
2	31	32		%ile	ITBS (1): Reading Total

FILE LAYOUT.

(Page 4 of 4)

PAGE 3 OF 3

BY: Karen Goforth

LABEL ID: EV8PREKL

TAPE NO. 1060

DATE CREATED:

BLOCKSIZE 4050 CHARACTERS

SUG. SCRATCH DATE: NEVER!

RECORD SIZE 138 CHARACTERS

DENSITY 1600 BPI

SEQUENCE 1d

SEQUENCE 1d

**DESCRIPTION**

Pre-K Longitudinal File 81-82

REMARKS

N=1257; 714 with 82 scores

[illegible]

Title I Migrant/Title I Regular/Title VII

Appendix J

Pre-K Teacher Interview

Brief description of the instrument:

The interview consists of 12 questions for all prekindergarten teachers, 3 questions for Title VII teachers only, and 2 questions for Title I/Migrant teachers. The questions deal with instructional language, curriculum, diagnosing, planning, organization, teacher contact, parent contact, community representative contact, supervisor contact, inservice, aides, and "At Home" activities.

To whom was the instrument administered?

Title I Migrant, Title I Regular, and Title VII prekindergarten teachers.

How many times was the instrument administered?

Once.

When was the instrument administered?

April, 1982.

Where was the instrument administered?

In their classroom or other school location of their choice.

Who administered the instrument?

A consultant.

What training did the administrators have?

General interview training and interview training specific to this interview format and situation.

Was the instrument administered under standardized conditions?

Yes.

Were there problems with the instrument or the administration that might affect the validity of the data?

None were identified.

Who developed the instrument?

ORE staff with input from the program staff.

Were reliability and validity data available on the instrument?

None.

Are there norm data available for interpreting the results?

No.



### Purpose

The Prekindergarten Teacher Interview was developed in midyear after an expressed need by program staff to have comparisons made among the Title I, Migrant, and Title VII Pre-K programs. Attachment J-1 is a letter explaining the purpose of these interviews. There are no decision or evaluation questions being addressed by this appendix since it was planned and developed after the evaluation designs were complete. The main purpose was to examine the similarities and differences among the three programs.

### Procedure

In December, 1981, various program staff were asked to generate items for the interview by mid-January. During February ORE staff members generated a pool of possible items. These were collected by the Migrant Program Evaluator and submitted to relevant ORE staff members to review, select, change, etc. the items they felt applicable (see Attachment J-2). From this input, a draft interview format was developed. This draft interview format was sent (see Attachment J-3) to the program staff for their review and feedback. After receiving staff input, a final interview format was developed. See Attachment J-4. The interview was kept relatively short to keep teacher time required to a minimum.

An outside consultant was hired to conduct the interviews to maintain impartiality. She had worked with our office previously in testing efforts. As a former kindergarten teacher, it was felt she would relate well to the pre-K teachers and their experiences. She received general training in interviewing techniques and specific training and practice in following this interview format.

In late March all the pre-K teachers were sent a memo (Attachment J-5) advising them of the upcoming interview. Enclosed was a copy of the interview format in preparation for their interview. The Migrant Evaluation Secretary called the teachers and arranged the times, dates, and locations for the interviews. The interviews were all completed by the end of April. The interviewer consulted with the Migrant Program Evaluator from time to time to apprise her of the progress of the interviews. She reported that all teachers were friendly and very cooperative with the task.

The data were hand-tallied by program in order that each individual teacher's responses could be kept confidential.

### Results

The results will be presented in terms the interview questions by program. The two split-funded teachers' responses are included with the Title I teachers' responses. There were six Title VII teachers, seven Migrant Program teachers, and seven Title I teachers.

1. Do you use English all the time for your instruction? \_\_\_\_ Yes \_\_\_\_ No

If you use another language please indicate what percentages of each language you use for each of the following:

The teachers' responses to Question #1 are presented in Figure J-1. Title VII teachers all reported using Spanish, only two Title I teachers currently used Spanish, and five Migrant Program teachers used Spanish. For all three programs, English was spoken to English-dominant students the majority of time. Only for Spanish-dominant students did the Title VII teachers on the average use Spanish the majority of the time in formal instruction. In informal instruction, the Title VII teachers and Migrant Program teachers as a group had similar language usage.

2. Question 2 deals with usage of curriculum.

Figure J-2 contains the Title VII teachers' responses to this item. All teachers used the BECP curriculum materials as their main curriculum. These teachers also used the AISD curriculum in some way. The majority also used materials developed by Dr. Barufaldi, as well as other commercially developed materials.

In Figure J-3 are summarized the Title I teachers' responses to the curriculum question. All teachers reported using the AISD curriculum as their main curriculum. All also used the Peabody Kit to some degree in their teaching. The large majority of teachers had also developed units of their own. Barufaldi materials were used by eight of the nine teachers. Only one teacher used the BECP in any way, and this was only to use some records and puzzles.

The Migrant Program teachers' responses are shown in Figure J-4. All the teachers used the AISD curriculum the majority of the time and as their main curriculum source. The majority also used the BECP, Peabody Kit, Barufaldi materials, and self-developed units in a supplementary fashion in their instruction.

- 3.a. How do you diagnose your students' instructional needs--do you use a checklist of skills, competencies, concepts, or what?
- b. Where did you get the method you use?
- c. How often do you check your students' needs?

The responses of all three groups of teachers to this question are summarized in Figure J-5. As can be noted from the figure, the majority of all teachers used a checklist as their main diagnostic tool.

For the Title VII teachers this checklist was from the BECP, self-developed, or a combination of the two. One Title VII teacher used a checklist from the AISD curriculum developed by Dr. Baranoff. All the Title I and Migrant Program teachers used the Baranoff/AISD checklist, a self-developed checklist, or a combination of the two.

The teachers varied in the frequency with which they checked their students' instructional needs. All Title VII teachers checked their students within the range of daily to every two weeks, with two teachers checking at two different times. The Title I and Migrant Program teachers were more varied in their responses. They usually had informal checks on a fairly frequent basis and more formal checks at 2-4 times during the year. A number of teachers (6) did report they checked their students daily.

#### 4. How do you plan for students' individual instructional needs?

The Title VII teachers' responses to this planning question are presented in Figure J-6. Several teachers mentioned reviewing concepts, etc. for students who did not understand, as well as grouping students based on their needs.

In Figure J-7 are presented the Title I teachers' responses to this item. Although a variety of responses were given, the majority mentioned grouping as a way of meeting needs. Additionally many teachers determine through checklists, questions, observation, etc. who needs additional help (review) and then determine whether they should receive it individually or in groups.

The responses of the Migrant Program teachers to this item are listed in Figure J-8. These teachers mentioned a variety of planning activities. Most mentioned using grouping or using one-to-one instruction to reinforce concepts. Therefore teachers are planning for different abilities.

#### 5. This question deals with how you organize the students for instruction.

- a) What percentage of the time for instruction do you use large groups (including the whole class)? \_\_\_\_\_
- b) What percentage of the time for instruction do you use small groups (size \_\_\_\_\_)?
- c) What percentage of the time for instruction do you use one-to-one? \_\_\_\_\_
- d) What percentage of the time for instruction do you use a combination? (please explain) \_\_\_\_\_

As can be noted from the first chart in Figure J-9, the Title I and Migrant Program teachers reported, as a group, spending more time than did Title VII teachers in large group instruction.

Conversely, as shown in the next chart in Figure J-9, the Title VII teachers used small group instruction a higher percentage of the time than did the Title I and Migrant Program teachers. The most popular group size for Title VII was 6-7 students, for Title I it was 4-5 students, and for Migrant Program teachers it varied between 4 and 7 students.

The last chart in Figure J-9 shows the percentages of time each group of teachers reported using one-to-one instruction. All used one-to-one 29% or less of the time. All teachers except one, used one-to-one instruction while other children were at centers, in free time, or in small groups, therefore these teachers used some combination of the instructional modes.

6. If you divide your students into instructional groups, what criteria do you use to group? Please check all that apply?

☐ age      ☒ language dominance (based on standardized tests)      ☐ other (please explain) \_\_\_\_\_  
☐ ability  
☐ personality      ☒ language dominance (based on teacher observation)

Figure J-10 contains the teachers' responses to this grouping question. The three most frequent responses were ability, language dominance (as determined by teacher observation), and personality.

7. When the children work alone what types of things are they doing?

The three groups of teachers gave a wide variety of responses as a group, and all together. Their responses are presented in Figure J-11. Most frequently children were said to be working at a center of some sort. The most frequently mentioned activities were listening centers/language master, art activities, manipulatives, blocks, books, puzzles, and housekeeping.

8. Check the category of teachers with whom you participated/contacted in each of the following areas:

☐ Share ideas  
☐ Provide training  
☐ Prepare instructional units  
☐ Share teaching duties  
☐ Plan classroom activities

In Figure J-12 are presented the frequencies and purposes of the teacher contacts each teacher group had. As can be noted from the frequencies, all groups had the most contact with other teachers in order to share ideas. The majority had contact with pre-K teachers from their own funding source, as well as from other funding sources. Title I and Migrant Program teachers had more contact with kindergarten teachers than did Title VII teachers. The other types of contact were less frequent for all groups.

9. How frequent is your contact with your community representative(s)?

☐ More than once a week  
☐ Once a week  
☐ Every two weeks  
☐ Once a month  
☐ Less than once a month

The frequency of reported contacts are presented in Figure J-13. As a group, Title VII teachers reported more contact with their community representative than did the Migrant Program and Title I teachers.

10. This question deals with your communications with your students' parents. Please use the percentage range to answer the items.

a) What percentage of parents did you have contact with:

In Figure J-14 are shown the frequencies of teacher contact with parents. Generally as a group, Title VII teachers reported more frequent contact with parents than did Title I or Migrant Program teachers.

10. b) What percentage of communications with parents did you initiate?

What percentage of communications with parents did the parents initiate?

The teachers' responses to this question are presented in Figure J-15. Across all three groups teachers generally initiated more contacts than did parents.

10. c) What percentage of these contacts were by phone?  
 What percentage were conferences?  
 What percentage were parent training sessions?  
 What percentage were PAC meetings?  
 What percentage were written communications?

Figure J-16 contains the teachers' responses to this item. The most frequent types of contacts reported by all teachers were conferences and written communications. Less frequent were contacts through parent training sessions and PAC meetings, although Title VII teachers (as a group) reported more of these types of contacts than did Migrant Program and Title I teachers.

10. d) What were the purposes of these contacts? Please list the purposes and assign a percentage to each.

A wide variety of purposes were mentioned. See Figure J-17. The most frequent purposes mentioned were meetings/conferences, positive reinforcement, discipline, information on units/class activities, field trips, progress reports, and parent volunteers.

11. In which of the following areas listed below did your supervisor (instructional coordinator) work with you? Check as many as apply.

In Figure J-18 are the frequencies of teachers' responses to this item. All teachers reported contact with their supervisor on curriculum materials and in-service training. Most reported contact on instructional supervision, program information, and communication with other teachers. Five of the Title VII teachers reported supervisor contact about parent training and communications with parents. No Migrant Program teachers reported contact for these purposes and only two Title I teachers reported supervisor contact for these purposes.

12. What topics should be offered for inservice training for prekindergarten teachers?

Quite a wide variety of topics were mentioned by the teachers. See Figure J-19. The most frequently mentioned topics were science, math, and art.



Title VII Teachers Only

1. How do you use your aide? What percentage of time does the aide spend in each type of activity that you named?

In Figure J-20 are presented each of the six teachers' responses (separated by a dashed line). Five teachers reported using the aide the large majority of the time in a teaching role. A secondary role was seen to be preparing materials, going to lunch, etc. One teacher reported her aide spent 50% of her time collecting and preparing instructional materials and only 25% of the time teaching and 25% of the time supervising students

- 2.
- a) Did you participate in developing the BECP "At Home" activities? \_\_\_\_ Yes  
\_\_\_\_ No
  - b) Did you participate in implementing the "At Home" activities? \_\_\_\_ Yes  
\_\_\_\_ No
  - c) How often do the "At Home" activities occur? \_\_\_\_\_
  - d) Did you find evidence that parents/relatives engaged in the "At Home" activities? \_\_\_\_ Yes \_\_\_\_ No If you answered yes, for how many of your students was this true? \_\_\_\_\_

The responses to the "At Home" questions are presented in Figure J-21. All teachers said they did not help develop the materials, but all reported participating in implementing the activities. The frequency of use of the "At Home" activities varied from one to two weeks between activities. All teachers reported that parents/relatives engaged in the "At Home" activities. The teachers responded that 50% or more of their students participated in these activities.

3. Did you find the inservice training sponsored by Title VII beneficial?  
\_\_\_\_ Yes \_\_\_\_ No If yes, why? If no, why not?

Figure J-22 presents teachers' responses to this question. All teachers felt the inservices were beneficial to them. The most frequent reason given was that new/better ideas were obtained.

Title I/Migrant Program Teachers Only

1. What have been the benefits of not having an aide this school year?

In Figure J-23 are listed the Title I teachers' replies to this question. Several did not see any benefits to not having an aide. Two mentioned smaller class size and two mentioned children were more independent/self-reliant.

The Migrant Program teachers' responses are in Figure J-24. Several teachers mentioned knowing the children better and feeling closer to them. That the teacher no longer has to take time to coordinate with another person was mentioned by two teachers.

Title I/Migrant Program Teachers Only

## 2. What have been the drawbacks of not having an aide this school year?

Figure J-25 contains the Title I teachers' responses to this question. Most saw more drawbacks than benefits by having no aide. Several felt the teacher could not supervise all the children as well; the teacher is not covered in an emergency; there is less time for individual work; there is no one to help with materials or clean-up; field trips were hard; less materials were covered; art suffered, etc.

The Migrant Program teachers' responses are presented in Figure J-25. As with the Title I teachers, there were more drawbacks seen than benefits. Most of the same reasons were given by Migrant Program teachers as were given by Title I teachers.

1. Do you use English all the time for your instruction?

	Title VII	Title I	Migrant Program
Yes	0	7 (now)	2
No	6	2 (now)	5

If you use another language, please indicate what percentages of each language you use for each of the following:

		FORMAL INSTRUCTION			INFORMAL INSTRUCTION		
		English	Spanish	Other	English	Spanish	Other
a) English-dominant students	Title VII	X = 90%	X = 10%	-	X = 87%	X = 13%	-
	Title I	X = 100%	X = 0%	-	X = 99%	X = 1%	-
	Migrant	X = 93%	X = 7%	-	X = 77%	X = 23%	-
b) Spanish-dominant students	Title VII	X = 36%	X = 64%	-	X = 53%	X = 47%	-
	Title I	X = 88%	X = 12%	-	X = 7%	X = 13%	-
	Migrant	X = 64%	X = 36%	-	X = 54%	X = 46%	-

Please note 1) Title I and Migrant Program percentages only reflect those teachers who do not use English all the time. 2) The percentages reflect language spoken in the spring, several teachers used more Spanish early in the school year. 3) Only one teacher had any other-dominant students, and she used 90% English and 10% Spanish for both formal and informal instruction.

Figure J-1. SUMMARY OF TEACHER RESPONSES TO QUESTION 1, PRE-K TEACHER INTERVIEW.



## 2. Curriculum Usage - Title VII

- AISD** Two of the six teachers reported the AISD curriculum was used as a main curriculum. One indicated the Migrant Program teacher with whom she frequently teamed used the AISD curriculum so her children got it through her. The frequency of use varied - 10%, 15%, 2-20%, 30%, and 40%. The one who reported using it 40% of the time indicated all the units were completed. One teacher used the AISD curriculum in teaching math.
- BECF** All six teachers reported using the BECF as their main curriculum source. Three of them used it in teaching math. The percentages of usage were 40%, 50%, 60%, 2-80%, and 95%. One teacher reported she had completed all the units.
- PEABODY** Two teachers used the Peabody Kit, but one of the two reported only using the pictures to supplement the other curricula. The one who used the Kit reported using it 5% of the time and using it to teach math.
- PORTAGE** None of the teachers used these materials.
- BARUFALDI** Five of the six indicated some use of these materials. One of the five reported her children were exposed to these materials since the Migrant Program teacher with whom she team taught used them. The usage reported varied between 3% and 10%. One teacher used these materials to teach math while another used them to teach science.
- SELF-DEVELOPED MATERIALS** One teacher reported using self-developed materials 3% of the time.
- OTHER** All, but one of the teachers reported using materials other than those already listed. One used Milton Bradley materials 5% of the time and to teach math. Another used a combination of Castañeda and teacher-made materials 10% of the time and to teach math. One teacher used a wide variety of other materials (Milton Bradley, Let's Find Out, Kid's Stuff, Our Big Back Yard, and Science Land) 25% of her time. She used these commercial materials in teaching math. One teacher used the Milton Bradley materials in teaching math, but did not assign a time use. Five-percent of the time one teacher used a combination of teacher-made and commercial materials.

Figure J-2. SUMMARY OF TITLE VII TEACHERS' RESPONSES TO QUESTION 2, PRE-K  
TEACHER INTERVIEW.

## 2. Curriculum Usage - Title I

- AISD** All of the teachers reported using the AISD curriculum as their main curriculum. Usage varied between 40% and 95% of the time (actual percentages reported were 40%, 50%, 2-60%, 70%, 75%, 80%, 90%, and 95%). Two of the nine used the curriculum to teach math.
- BECP** None of the teachers listed the BECP as a curriculum source, except one teacher who used some of the records and puzzles in relation to other curriculum materials.
- PEABODY** All the teachers reported using the Peabody Kit as a curriculum source. All reported using it in a supplementary fashion, except one who reported it was a main curriculum source (but only used 25% of the time). Percentages of time used ranged between 2% and 30% of the time (2%, 3%, 5%, 2-10%, 25%, and 3-30%). Three teachers used these materials in teaching math.
- PORTAGE** No one reported these materials were used.
- SELF-DEVELOPED UNITS** Seven of the nine teachers had developed units of their own. The percentages of usage reported varied - 1%, 5%, 2-10%, 2-20%, and 30%. One person used a unit developed for holidays. Three of the teachers used their own units to teach math.
- BARUFALDI** Eight teachers used Barufaldi materials in their classrooms. The reported usage varied between 1% and 10%. Two reported using it to teach math while one used the materials in teaching about plants and the five senses.
- OTHER** Five teachers reporting using other materials. The usage varied between 10% of the time and 30 minutes per week. The counselor at one school used the Duso materials with the children 30 minutes per week. One used Wesley (to teach math) and Their Way 5% of the time. Three percent of the time, one teacher used Work Jobs (including to teach math). Another used Castañeda and Something Special materials three percent of the time and she used these to teach math. Finally one teacher used Health Science materials to teach and she used them 10% of the time.

Figure J-3. SUMMARY OF TITLE I TEACHERS' RESPONSES TO QUESTION 2, PRE-K TEACHER INTERVIEW.

## 2. Curriculum Usage - Migrant Program

AISD	All of the Migrant Program teachers used the AISD curriculum as their main curriculum with reported usage varying between 60% and 100% of the time. Actual reported percentages were 60%, 2-70%, 80%, 89%, 90%, and 100%. Five of the seven used the AISD curriculum to teach math.
BECP	Five of the seven teachers used the BECP in a supplementary fashion. The percentage of time used varied between 5% and 15%. One teacher used the BECP to teach math.
PEABODY	Four teachers reported using the Peabody Kit in their instructional program. The usage varied between 2% and 10% of the time. One of the four reported using only the pictures to supplement the other curriculum. No one used it to teach math.
PORTAGE	No one reported using any of the Portage materials.
SELF-DEVELOPED UNITS	Five teachers reported using self-developed materials in a supplementary fashion. The percentages of use ranged between 2% and 20%. Two teachers used their materials to teach math.
BARUFALDI	Five of the seven used the Barufaldi materials. The percentage of time used ranged from 2% to 10% of the time. Two used these materials in math instruction.
OTHER	One teacher reported using other materials. The teacher stated approximately one percent of the time she used commercial kits and magazines.

Figure J-4. SUMMARY OF MIGRANT PROGRAM TEACHERS' RESPONSES TO QUESTION 2, PRE-K TEACHER INTERVIEW.

3.a. How do you diagnose your students' instructional needs?

	Checklist	Observation	Questioning	Testing	Other
Title VII	5	2	-	1	--
Title I	8	-	1	-	--
Migrant Program	5	1	1	-	Skills Box 1 Games 1 Activities 1

Numbers reflect the frequencies of teachers' responses.

3.b. Where did you get the method you use?

	Baranoff (AISD)	BECF	Self-Developed	Other
Title VII	1	4	3	-
Title I	7	-	3	Workshops - 1
Migrant Program	7	-	3	Other teachers - 1

Numbers reflect the frequencies of teachers' responses.

3.c. How often do you check your students' needs?

	Daily	Weekly	Biweekly	Monthly	Other
Title VII	2	3	3	-	-
Title I	4	1 1-Sometimes	1 1-Sometimes	2	Formally - 3/4 times year (2 responses)
Migrant Program	2	2	1-Sometimes 2	1-Sometimes	Formally - twice yearly (2 responses) Formally - 3-5 times 1 year (3 responses) Formally - at the beginning of the year Informally - 5 times a year

Numbers reflect the frequencies of teachers' responses.

Figure J-5. SUMMARY OF PRE-K TEACHERS' RESPONSES TO QUESTION 3, PRE-K TEACHER INTERVIEW.

Title VII Teachers

## 4. How do you plan for students' individual instructional needs?

- . Materials are used to help them.
- . Supervisor is contacted for help.
- . Groups differ for different subjects or motor skills.
- . After testing (end of the unit), teacher talks with the aide and then reviews the child the following week on the concepts he missed.
- . Teacher plans based on how students score on end of unit tests.
- . Aide reviews concepts when students do not get concept.
- . If someone does not grasp concept, teacher reviews with them that day.
- . Teacher plans around language dominance after testing them orally.
- . A review is conducted for students who did not understand.
- . Students are grouped by language.
- . Students are grouped by needs for lessons.
- . Teacher remediates problems as they occur.
- . Teacher supplements curriculum with AISD curriculum for students who need more stimulation.

Figure J-6. SUMMARY OF TITLE VII TEACHERS' RESPONSES TO QUESTION 4, PRE-K  
TEACHER INTERVIEW.

Title I Teachers

## 4. How do you plan for students' individual instructional needs?

- . Teacher assesses from unit and educational checklist.
- . The whole concept is taught to the large group, then those who have trouble are placed into a small group where they receive individual attention.
- . Teacher observes in concept presentation to see who understands by questions and answers.
- . Teacher plans small group instruction according to needs (from checklist).
- . Students get individual instruction based on needs.
- . Self-made games are performed so teacher can see what children have learned in unit.
- . Teacher checks performance on lessons and gives more help if needed.
- . Students are given one-to-one help if needed during nap time.
- . Teacher makes home visits to make parents aware of extra help needed and to get siblings to help.
- . Teacher loans manipulative toys to families as needed.
- . Teacher asks Extend-A-Care to work on needs.
- . All the children receive the same instructions, then teacher sees who needs additional help and she or other child helps student(s) on needs. This challenges peer tutor, too.
- . Teacher plans for small groups.
- . If children need extra help, she works with them individually.
- . Teacher refers to checklist to see what the children have not picked up on yet and then goes over it with them.
- . Concepts are presented in a large group. If children need more help (screen children on checklist) they are taught via small group or one-to-one.
- . Lessons are presented to large groups, small groups, and individuals.

Figure J-7. SUMMARY OF TITLE I TEACHERS' RESPONSES TO QUESTION 4, PRE-K TEACHER INTERVIEW.

Migrant Program Teachers

## 4. How do you plan for 'students' individual instructional needs?

- . Teacher follows checklist.
- . Small groups are used in the afternoons.
- . Different things are used for students who need it.
- . In large group, teacher gears questions to students who need it.
- . Teacher gears each lesson toward the small groups and then works with individuals within the group.
- . Students who are ahead are given extra activities.
- . Teacher works one-to-one with students who are having problems.
- . Teacher gives individuals who need help individual help while the other students are having free time.
- . Students are grouped to facilitate individual instruction.
- . Activities are planned for different groups with different abilities.
- . While students are within groups, the teacher individualizes help.
- . The Title VII aide comes daily and helps with individuals or small groups.
- . Teacher uses special games.
- . Instruction is used for reinforcement.

Figure J-8. SUMMARY OF MIGRANT PROGRAM TEACHERS' RESPONSES TO QUESTION 4, PRE-K TEACHER INTERVIEW.

5a. What percentage of the time for instruction do you use large groups (including the whole class)?

	100%	99-90%	89-80%	79-70%	69-60%	59-50%	49-40%	39-30%	29-20%	19-10%
Title VII						1	1		2	2
Title I			1	2	1	4	7		1	
Migrant Program			3	1		2			1	

Numbers reflect the frequencies of teachers' responses.

5b. What percentage of the time for instruction do you use small groups (size \_\_\_\_)?

	100%	99-90%	89-80%	79-70%	69-60%	59-50%	49-40%	39-30%	29-20%	19-10%
Title VII		2	1	1	1		1			
Title I					1	2	2	1	3	1
Migrant Program				1			1		4	1

Numbers reflect frequencies of teachers' responses.

	Group Size (Number of children)			
	1-2	3-4	5-6	7-8
Title VII		2	1	
Title I		2	7	
Migrant Program	1	3	3	

Note: Many teachers have children grouped in small groups while they are working with individuals.

Numbers reflect frequencies of teachers' responses.

5c. What percentage of the time for instruction do you use one-to-one?

	100%	99-90%	89-80%	79-70%	69-60%	59-50%	49-40%	39-30%	29-20%	19-10%	9-1%	1%	Other
Title VII									1	2	1		1 - if needed 1 - Address each individual in small group
Title I									2	4	2		1 - during free time
Migrant Program									1	1	4	1	

Numbers reflect frequencies of teachers' responses.

Figure J-9. SUMMARY OF PRE-K TEACHERS' RESPONSES TO QUESTION 5, PRE-K TEACHER INTERVIEW.



6. If you divide your students into instructional groups, what criteria do you use to group?

	Age	Ability	Personality	Language Dominance (tests)	Language Dominance (observance)	Other
Title VII	0	4	2	2	4	1 - random 1 - attention span problems
Title I	1	7	5	0	3	1 - similar needs on concept development 1 - mix high and low abilities
Migrant Program	0	6	3	1	5	1 - heterogeneous - groups vary by day 1 - groups formed based on answers to questions re: lessons, etc.

Numbers reflect number of teachers using each criteria (many teachers use more than one type of grouping).

Figure J-10. SUMMARY OF PRE-K TEACHERS' RESPONSES TO QUESTION 6, PRE-K TEACHER INTERVIEW.

7. When the children work alone, what type of things are they doing?

	Variety of Centers (not specified)	Listening Center/ Language Master.	Puzzles/Games	Science	Art (Painting, etc.)	Manipulatives	Blocks (including Lego)	Books (Library and Reading)	Housekeeping	Clay/Play-Dough	Water Activities	Individual Worksheets/ Skills Development	Small Muscles (fine Motor)	Large Muscles (gross motor)	Puppets	Cut and Paste	Pre-Writing	Math	Pictures
Title VII	2	3	1	2	5	2	3	2	3	2	1	0	2	1	2	1	3	3	1
Title I	3	5	4	2	5	6	5	3	2	2	3	0	1	1	1	1	0	1	2
Migrant Program	1	4	4	2	5	6	5	6	5	2	1	2	2	1	0	1	0	1	0

Numbers reflect the frequencies of teachers' responses.

1 or 2 teachers also mentioned each of the following: Music (Records and Cassettes), Role Play/Dramatic Play, Colors, View Master, Previous Lesson Activities/Reinforcement, Practical Living, Workbench, Chalkboard, Matching, Beads, School Table, Building, and Cans.

Figure J-11. SUMMARY OF PRE-K TEACHERS' RESPONSES TO QUESTION 7, PRE-K TEACHER INTERVIEW.

8. Check the category of teachers with whom you participated/contacted in each of the following:

	Title VII Pre-K Teachers	Title I Pre-K Teachers	Migrant Program Pre-K Teachers	Kindergarten Teachers	Others	None	
SHARE IDEAS	Title VII	6	4	6	3	2 (aides)	0
	Title I	8	9	8	7	1 (principal)	0
	Migrant Program	5	7	6	7	1 (other elem. teachers)	0
						1 (supervisor)	0
PROVIDE TRAIN- ING	Title VII	3	1	1	0	1 (faculty)	0
	Title I	2	2	1	1	1 (parents)	3
	Migrant Program	1	2	2	0	2 (PACs)	4
						1 (other group)	4
PREPARE INSTRUC. UNITS	Title VII	2	0	0	0	1 (faculty)	4
	Title I	0	3	1	1	1 (PAC)	4
	Migrant Program	3	1	1	2	1 (individual parent train- ing)	4
SHARE TEACH- ING DUTIES	Title VII	0	0	1	0	1 (aide)	3
	Title I	0	1	0	2	0	5
	Migrant Program	1	0	0	1	1 (AISD EC)	2
						5 (aides)	1
PLAN CLASS- ROOM ACTIV- ITIES	Title VII	3	0	1	1	0	6
	Title I	1	4	1	2	0	4
	Migrant Program	3	1	1	0	0	4

Numbers reflect the frequencies of teachers' responses.

Figure J-12. SUMMARY OF PRE-K TEACHERS' RESPONSES TO QUESTION 8, PRE-K TEACHER INTERVIEW.

9. How frequent is your contact with your community representative(s)?

	More than once a week	Once a week	Every two weeks	Once a month	Less than once a week	Comments
Title VII	3	0	2	1	0	1 - She is wonderful. 1 - If I need anything she responds.
Title I	0	2	2	1	4	1 - These children have not had needs that caused more contact.
Migrant Program	0	1	0	4	2	

Numbers reflect the frequencies of teachers' responses.

Figure J-13. SUMMARY OF PRE-K TEACHERS' RESPONSES TO QUESTION 9, PRE-K TEACHER INTERVIEW.

10. This question deals with your communications with your students' parents. Please use the percentage range to answer the items.

a) What percentage of parents did you have contact with:

		0-25%	26-50%	51-75%	76-100%
More than once a week	Title VII	2	2	1	1
	Title I	6	3	0	0
	Migrant Program	6	1	0	0
Once a week	Title VII	4	1	1	0
	Title I	7	2	0	0
	Migrant Program	5	1	0	1
Every two weeks	Title VII	6	0	0	0
	Title I	5	1	1	2
	Migrant Program	2	2	1	1
Once a month	Title VII	6	0	0	0
	Title I	4	0	3	2
	Migrant Program	3	3	0	1
Less than once a month	Title VII	6	0	0	0
	Title I	7	1	1	0
	Migrant Program	6	0	1	0
Not at all	Title VII	6	0	0	0
	Title I	9	0	0	0
	Migrant Program	7	0	0	0

Numbers reflect frequencies of teachers' responses.

Figure J-14. SUMMARY OF PRE-K TEACHERS' RESPONSES TO QUESTION 10a, PRE-K TEACHER INTERVIEW.

10. This question deals with your communications with your students' parents. Please use the percentage range to answer the items.

b)

		0-25%	26-50%	51-75%	76-100%
What percentage of communications with parents did you initiate?	Title VII	0	1	3	2
	Title I	1	0	3	5
	Migrant Program	1	2	3	1
What percentage of communications with parents did the parents initiate?	Title VII	2	4	0	0
	Title I	8	0	1	0
	Migrant Program	2	4	0	1

Numbers reflect frequencies of teachers' responses.

Figure J-15. SUMMARY OF PRE-K TEACHERS' RESPONSES TO QUESTION 10b, PRE-K TEACHER INTERVIEW.

10. This question deals with your communications with your students' parents. Please use the percentage range.

c)		0-25%	26-50%	51-75%	76-100%
What percentage of these contacts were by phone?	Title VII	4	1	1	0
	Title I	7	2	0	0
	Migrant Program	1	5	1	0
What percentage were conferences?	Title VII	1	1	0	4
	Title I	3	4	1	1
	Migrant Program	1	1	2	3
What percentage were parent training sessions?	Title VII	3	1	2	0
	Title I	9	0	0	0
	Migrant Program	6	0	1	0
What percentage were PAC meetings?	Title VII	2	3	1	0
	Title I	9	0	0	0
	Migrant Program	6	1	0	0
What percentage were written communications?	Title VII	0	0	1	5
	Title I	2	3	2	2
	Migrant Program	1	1	2	3

Numbers reflect frequencies of teachers' responses.

Figure J-16. SUMMARY OF PRE-K TEACHERS' RESPONSES TO QUESTION 10c, PRE-K TEACHER INTERVIEW.

10.d. What were the purposes of these (parent) contacts? Please list the purpose and assign a percentage to each.

	Discipline	Parties	Progress Reports	Field Trips	Positive Reinforcement/ Good Behavior/Improvement	Health (Absence/Lateness)	Parent Volunteers	Information on Units (Class activities)	Meetings/Conference	How to Help Children	Lunch Money	Bus	Problem Solving	School Needs/News	At-Home Activities	Program Information	Parents Visit Class	Projects	Written Checklist	PAC	Other Purposes
Title VII	3	2	2	2	3	2	1	3	4	0	0	0	1	1	1	2	0	0	0	0	3
Title I	6	2	6	3	4	2	5	4	5	1	2	0	0	1	0	2	1	0	0	1	2
Migrant Program	3	1	4	4	2	1	1	7	2	4	1	1	0	0	0	0	0	1	1	1	3

Numbers reflect frequencies of teachers' responses. Please note the majority of teachers did not assign a percentage to each. All teachers mentioned several purposes.

Figure J-17. SUMMARY OF PRE-K TEACHERS' RESPONSES TO QUESTION 10d, PRE-K TEACHER INTERVIEW.



11. In which of the following areas listed below did your supervisor (instructional coordinator) work with you? Check as many as apply.

	Instructional Supervision	Curriculum Materials	Program Information	Classroom Management	Parent Training	Inservice Training	Communications W/Other Teachers	Communications With Parents	Other
Title VII	5	6	5	4	5	6	5	5	2 - Supervisor is excellent
Title I	6	9	8	2	2	9	5	2	1 - Purchase of camera-She's very helpful. 1 - Supervisor is helpful with everything.
Migrant Program	7	7	6	5	0	7	5	0	1 - She's brought visitors to observe. 1 - She's been very helpful, easy to communicate with her.

Numbers reflect frequencies of teachers' responses.

Figure J-18. SUMMARY OF PRE-K TEACHERS' RESPONSES TO QUESTION 11, PRE-K TEACHER INTERVIEW.

12. What topics should be offered for inservice training for prekindergarten teachers?

	Science	Math	Discipline For 4yr. olds	Hyperactivity	Creative Movement	Music	Art	Parental Involvement/ Ways to Work w/Kids at Home	Specific Activities With Handouts	Games/Blocks	Variety of Curriculum - Based on Ideas & Techniques	P.E.	Other Topics
Title VII	3	2	0	0	0	0	1	1	0	0	0	0	5
Title I	3	3	1	0	2	2	2	2	0	2	0	1	7
Migrant	2	2	1	2	1	0	1	1	2	1	1	1	10

Numbers reflect number of teachers responding.

Figure J-19. SUMMARY OF PRE-K TEACHERS' RESPONSES TO QUESTION 12, PRE-K TEACHER INTERVIEW.

## Title VII Teachers Only

1. How do you use your aide? What percentage of time does the aide spend in each type of activity?

<u>Type of Activity</u>	<u>Percentage of Time</u>
prepares and collects instructional materials . . . . .	50%
teaches . . . . .	25%
supervises of students . . . . .	25%
aide also helps translate notes to parents . . . . .	not given
assists in all teaching of lessons and goes to lunch . . . . .	not given
serves as a teaching assistant-reinforces . . . . .	95%
makes bulletin boards and materials . . . . .	5%
serves completely as a teaching assistant-same as other pre-K teacher -- she's tops . . . . .	not given
teaches same amount of time as teacher. Both clean up and prepare together . . . . .	not given
does vocabulary lessons . . . . .	10%
does visual training . . . . .	10%
does motor training . . . . .	10%
conducts art lessons . . . . .	10%
teaches creative moves . . . . .	10%
reads stories . . . . .	5%
works on centers . . . . .	5%
teaches AISD curriculum . . . . .	10%
works with lunch, snacks . . . . .	5%
supplements curriculum . . . . .	5%
prepares materials . . . . .	10%
prepares bulletin boards . . . . .	10%

Figure J-20. SUMMARY OF TITLE VII TEACHERS' RESPONSES TO QUESTION 1 (FOR TITLE VII TEACHERS ONLY), PRE-K TEACHER INTERVIEW.

## Questions for Title VII Teachers Only

2. a) Did you participate in developing the BECP "At Home" activities?

*All teachers responded they had not.*

- b) Did you participate in implementing the "At Home" activities?

*All teachers responded yes.*

- c) How often do the "At Home" activities occur?

FREQUENCYNUMBER OF TEACHERS REPORTING

<i>weekly</i>	<i>2</i>
<i>after each unit</i>	<i>2</i>
<i>every 2 weeks</i>	<i>1</i>
<i>started very good (?)</i>	<i>1</i>

- d) Did you find evidence that parents/relatives engaged in the "At Home" activities?

*All teachers responded yes.*

If you answered yes, for how many of your students was this true?

NUMBER OF STUDENTS

*18 out of 18*  
*14 out of 18*  
*9 out of 18*  
*12 out of 18*  
*most out of 18.*  
*16 out of 18*

Figure J-21. SUMMARY OF TITLE VII TEACHERS' RESPONSES TO QUESTION 2 (FOR TITLE VII TEACHERS ONLY), PRE-K TEACHER INTERVIEW.

## Questions for Title VII Teachers Only

3. Did you find the inservice training sponsored by Title VII beneficial?

*All teachers responded yes.*

*If yes, why?*

- . The formal inservice was all good.*
- . Frequent meetings allow for problem solving and the giving of beneficial news.*
- . The inservice brings new ideas and new ways of teaching concepts.*
- . New ideas could help us.*
- . Most of the time could determine what benefited us.*
- . It gave different ideas and methods - learn from others.*
- . You get new ideas.*
- . Can visit classrooms of others.*
- . Teacher learned a lot.*
- . Teacher is motivated to try new ideas.*
- . Teacher learns easier ways to do things.*

Figure J-22. SUMMARY OF TITLE VII TEACHERS' RESPONSES TO QUESTION 3 (FOR TITLE VII TEACHERS ONLY), PRE-K TEACHER INTERVIEW.

## Questions for Title I/Migrant Teachers

Title I Teachers

1. What have been the benefits of not having an aide this school year?

- . Blank.
- . There's more teacher/student interaction.
- . Students are more self-reliant since teacher is the only adult.
- . None.
- . Did have two parent volunteers for parties, field trips, and food preparation.
- . A big none -- no benefits.
- . Nothing.
- . Fewer children.
- . I plan by myself without having to go over it with aide.
- . I wasn't here last year, but would like an aide.
- . I have a smaller class size without an aide.
- . I have maintained higher expectations for the children.
- . There is more parent involvement.
- . Children are more independent.
- . Children do more creative art projects.
- . Children hear only consistent standard English spoken.

Figure J-23. SUMMARY OF TITLE I TEACHERS' RESPONSES TO QUESTION 1 (TITLE I/MIGRANT TEACHERS ONLY), PRE-K TEACHER INTERVIEW.

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## Questions for Title I/Migrant Teachers

Migrant Program Teachers

1. What have been the benefits of not having an aide this school year?

- . None.
- . I feel I have more class control since I am the only authority figure.
- . It's easier to plan (takes less time) since I do not have to coordinate with anyone else.
- . I know more what is going on instructionally and what children's responsibilities are.
- . I have team-taught with the Title VII teacher and her aide and it has worked well.
- . The children responded better to me since I was the only adult (children used to manipulate two adults).
- . I have to be extra-organized and have activities done far in advance of the units.
- . Children were given more responsibilities.
- . Teacher and children feel closer to each other (2).
- . I got more 1-to-1 attention with the children.
- . There was the smaller class size.
- . Children showed more independent behavior.

Figure J-24. SUMMARY OF MIGRANT PROGRAM TEACHERS' RESPONSES TO QUESTION 1 (TITLE I/MIGRANT TEACHERS ONLY), PRE-K TEACHER INTERVIEW.

Title I Teachers

## 2. What have been the drawbacks of not having an aide this school year?

- . While the teacher works with one small group, the rest of the children were not receiving instruction from the aide and were unsupervised.
- . Units were not covered as extensively - there was less art and stories.
- . Art and other projects took longer to complete.
- . There is not enough supervision on study trips when parents cannot come.
- . Some units took longer to cover.
- . There was less time for one-to-one.
- . Cannot leave children when get emergency calls (2).
- . Art projects require constant supervision.
- . Teacher gets no break all day.
- . More teacher time is spent cleaning up.
- . Trips have been difficult even when parents help.
- . There is large group instruction now instead of small group instruction.
- . There is no reinforcement in group with no aide.
- . Teacher spends more time in non-instructional tasks.
- . Less children have been seen.
- . Teacher can see big difference this year - children are 3 or 4 months behind in development.
- . Art is not as refined because of lack of individual help.
- . Teacher has not made as many materials (2).
- . Children lost out.
- . Field trips were not as enjoyable because children were harder to control.
- . Classroom management is a problem - it is harder to get kids doing things.
- . There has been a cultural lag since aide was Spanish speaker and could help with words for Spanish-speaking children.
- . There is no continuity in routine if the teacher is absent.
- . Less time is available to make materials to go with units.
- . Teacher misses bilingual help from aide (2).
- . Teacher had to change the way she ran a small group which resulted in covering less material in unit. After children were trained to the new way, this improved.
- . There was no dependable help on field trips.
- . Teacher formerly presented more materials with aide's reinforcement to children.
- . Children need more help.
- . It is hard not having a person to communicate with the Spanish-speaking children.
- . There is no help in preparing materials, bulletin boards, games, etc.
- . It takes more time planning field trips.
- . Teacher is not ready in A.M.
- . It takes time from center time for maintenance.
- . Teacher does involve children more in preparation - out of desperation.
- . Class foregoes some activities because of no help i.e., cooking.
- . There is not enough "affect" on study trips although parents do help.
- . It is a problem not having as much time to spend individually.

Figure J-25. SUMMARY OF TITLE I TEACHERS' RESPONSES TO QUESTION 2 (TITLE I/ MIGRANT TEACHERS ONLY), PRE-K TEACHER INTERVIEW.



## Questions for Title I/Migrant Teachers

Migrant Program Teachers

## 2. What have been the drawbacks of not having an aide this school year?

- . There are too many children in the small groups.
- . There is not enough time for one-to-one.
- . Class has not covered as many units.
- . Teacher has cut back on art activities.
- . There is not enough help with study trips.
- . It is a problem having to take the whole class whenever teacher gets a phone call or there is an emergency.
- . In addition to working with the children, it is hard to do all the other things like - prepare bulletin boards, change learning centers, clean room, sweep carpet, laminate, prepare lessons, order films, plan, do study trips, order materials, etc., etc.
- . Class is not covering as much materials or as many projects as last year.
- . Teacher has less time for individual attention (2).
- . Teacher cannot supervise children as much.
- . Teacher has no help in making instructional materials.
- . There is less help for study trips.
- . There is less help with behavior management.
- . Teacher is not able to work with small groups as well.
- . The situation is more stressful for the teacher - she is with the children every minute and her constant attention is required.
- . Material preparation previously done by the aide really takes time.
- . Reinforcement activities are not done as much as with aide.
- . Class has not done as many activities in the units because of lack of help.
- . Teacher is exhausted by the end of the day.
- . It is hard to do all the clerical work and bulletin boards, etc. alone.
- . Teacher has more discipline problems in large groups.
- . It is a problem not having another adult to talk with about the children.
- . There are fewer small groups - aide used to work with small groups and reinforce them.
- . There is less individual instruction.
- . There is no support during unusual or emergency situations.
- . Class cannot do as many elaborate things in art or units.

Figure J-26. SUMMARY OF MIGRANT PROGRAM TEACHERS' RESPONSES TO QUESTION 2 (TITLE I/MIGRANT TEACHERS ONLY), PRE-K TEACHER INTERVIEW.

AUSTIN INDEPENDENT SCHOOL DISTRICT  
Office of Research and Evaluation

December 16, 1981

TO: Lee Laws  
FROM: Catherine Christner *Catherine*  
THROUGH: Freda Holley *Freda Holley*  
SUBJECT: Title I, Migrant, and Title VII Pre-K Comparisons

As a result of our meeting with Timy, you, and your staff, we understand your needs to have our office do a comparative study across the Title I, Migrant, and Title VII Pre-K Programs. The Title VII auditors' concerns focus on a perceived lack of uniqueness of Title VII as compared to the Title I and Migrant Programs.

Although ideally, extensive full-day observations across the three programs are desirable, the person-cost and planning involved are prohibitive. Since our designs were set in September and resources committed (and some already expended), we feel that a less costly measure is in line.

We would like to do a structured interview with all the pre-K teachers. These interviews would focus on what the teachers do. We hope to ascertain from these what similarities and differences exist in the programs and how they operate.

In past evaluations, (except for Title I and Migrant) information across programs has not been strictly comparable for various reasons (observations done by different people, etc.). This year it seems most important that the interviews be as comparable as possible. Therefore, I plan to either conduct all the interviews myself or hire and supervise a consultant to do so. I would make some adjustments in my evaluation to accomodate this activity.

Timy Baranoff has already submitted suggestions for interview items. I would appreciate you and your staff also sending me any ideas you have for items by mid January. Conducting these interviews in February or March would be ideal.

Does this plan meet with your approval? Any interview format developed will be submitted to you and your staff for review.

CC:lg

cc: Karen Carsrud  
Jonathan Curtis  
Martin Arocena

Timy Baranoff  
Anita Uphaus  
Anita Coy

Ruth MacAllister  
Carmen Gamboa  
Eva Rivera

Oscar Cantu

AUSTIN INDEPENDENT SCHOOL DISTRICT  
Office of Research and Evaluation

March 2, 1982

TO: Glynn, Jon, Karen, Martin  
FROM: Catherine  
SUBJECT: Pre-K Interview Items


Enclosed are two sets of possible pre-K teacher interview items. Some items overlap and some are just stated in different ways. Both are rough drafts. Please star the items that you feel need to be included in the interview. Make any wording changes desired and add any items you feel are not already covered.

Please give me your feedback by March 8, 1982 so we can formalize the format and get project staff to review it.

Thanks.

CC:lg  
Enclosures

APPROVED:

  
Director, Research and Evaluation

AUSTIN INDEPENDENT SCHOOL DISTRICT  
Office of Research and Evaluation

March 12, 1982

TO: Persons Addressed.  
FROM: Catherine Christner  
SUBJECT: Draft of Title I, Title VII, and Migrant Pre-K Teacher Interview

Our staff has drafted a pre-K interview format that we hope will shed light on the similarities and differences among the programs. Please review the attached format and give me your feedback as soon as possible (not later than March 24, 1982) so we can finalize the format and begin conducting the interviews.

Thank you for your cooperation.

CC:lg  
Enclosure

APPROVED: *Julia Hilly*  
Director, Research and Evaluation

Persons Addressed: Lee Laws  
Oscar Cantu  
Timy Baranoff  
Anita Uphaus  
Carmen Gamboa  
Anita Coy  
Eva Rivera

cc: Jonathan Curtis  
Karen Carsrud  
Martin Arocena

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Date \_\_\_\_\_

## PREKINDERGARTEN TEACHER INTERVIEW

Teacher's Name \_\_\_\_\_

Program(s) \_\_\_\_\_ Title I \_\_\_\_\_ Title VII \_\_\_\_\_ Migrant

1. Do you use English all the time for your instruction? \_\_\_\_\_ Yes \_\_\_\_\_ No

If you use another language please indicate what percentages of each language you use for each of the following:

	FORMAL INSTRUCTION			INFORMAL INSTRUCTION		
	English	Spanish	Other	English	Spanish	Other
a) English-dominant students	_____ %	_____ %	_____ %	_____ %	_____ %	_____ %
b) Spanish-dominant students	_____ %	_____ %	_____ %	_____ %	_____ %	_____ %
c) Other students	_____ %	_____ %	_____ %	_____ %	_____ %	_____ %

2. Check how you used each source: Check any you used to teach math What % of your instruction came from each curriculum source?

	The main curriculum	Supplementary	Other (please define)	Check any you used to teach math	What % of your instruction came from each curriculum source?
AIISD	_____	_____	_____	_____	_____
BECP	_____	_____	_____	_____	_____
Peabody Kit	_____	_____	_____	_____	_____
Portage	_____	_____	_____	_____	_____
Self-Developed Units	_____	_____	_____	_____	_____
Barufaldi	_____	_____	_____	_____	_____
Other: _____	_____	_____	_____	_____	_____

3. a) How do you diagnose your students' instructional needs—do you use a checklist of skills, competencies, concepts, or what?

b) Where did you get the method you use?

c) How often do you check your students' needs?

4. How do you plan for students' individual instructional needs?

5. This question deals with how you organize the students for instruction.

a) What percentage of the time for instruction do you use large groups (including the whole class)? \_\_\_\_\_

- b) What percentage of the time for instruction do you use small groups (size \_\_\_\_\_)?  
\_\_\_\_\_
- c) What percentage of the time for instruction do you use one-to-one? \_\_\_\_\_
- d) What percentage of the time for instruction do you use a combination? (please explain) \_\_\_\_\_

6. If you divide your students into instructional groups, what criteria do you use to group? Please check all that apply?

\_\_\_\_\_ age \_\_\_\_\_ language dominance (based on standardized tests) \_\_\_\_\_ other (please explain) \_\_\_\_\_  
 \_\_\_\_\_ ability \_\_\_\_\_  
 \_\_\_\_\_ personality \_\_\_\_\_ language dominance (based on teacher observation) \_\_\_\_\_

7. When the children work alone what types of things are they doing?

8. Check the category of teachers with whom you participated/contacted in each of the following areas:

	Title VII Pre-K Teachers	Title I Pre-K Teachers	Migrant Pre-K Teachers	Kindergarten Teachers	Others (Define)	None
Share ideas	_____	_____	_____	_____	_____	_____
Provide training	_____	_____	_____	_____	_____	_____
Prepare instructional units	_____	_____	_____	_____	_____	_____
Share teaching duties	_____	_____	_____	_____	_____	_____
Plan classroom activities	_____	_____	_____	_____	_____	_____

9. How frequent is your contact with your community representative(s)?

\_\_\_\_\_ More than once a week \_\_\_\_\_ Once a week \_\_\_\_\_ Every two weeks \_\_\_\_\_ Once a month \_\_\_\_\_ Less than once a month

10. This question deals with your communications with your students' parents. Please use the percentage range to answer the items.

	0%-25%	26%-50%	51%-75%	76%-100%
a) What percentage of parents did you have contact with:				
more than once a week?	_____	_____	_____	_____
once a week?	_____	_____	_____	_____
once every two weeks?	_____	_____	_____	_____
once a month?	_____	_____	_____	_____
less than once a month?	_____	_____	_____	_____
not at all?	_____	_____	_____	_____

- |  | 0%-25% | 26%-50% | 51%-75% | 76%-100% |
|--|--------|---------|---------|----------|
| 10. b) What percentage of communications with parents did you initiate?                                |        |         |         |          |
| What percentage of communications with parents did the parents initiate?                               |        |         |         |          |
| c) What percentage of these contacts were by phone?  |        |         |         |          |
| What percentage were conferences?  |        |         |         |          |
| What percentage were parent training sessions?   |        |         |         |          |
| What percentage were PAC meetings?   |        |         |         |          |
| What percentage were written communications?   |        |         |         |          |
| d) What were the purposes of these contacts? Please list the purposes and assign a percentage to each. |        |         |         |          |
11. In which of the following areas listed below did your supervisor (instructional coordinator) work with you? Check as many as apply.
- |  |   |
|--|---|
| <input type="checkbox"/> instructional supervision | <input type="checkbox"/> inservice training                 |
| <input type="checkbox"/> curriculum materials      | <input type="checkbox"/> communications with other teachers |
| <input type="checkbox"/> program information       | <input type="checkbox"/> communications with parents        |
| <input type="checkbox"/> classroom management      | <input type="checkbox"/> other (please define) _____        |
| <input type="checkbox"/> parent training           |   |
12. What topics should be offered for inservice training for prekindergarten teachers?

Title VII Teachers Only

1. How do you use your aide? What percentage of time does the aide spend in each type of activity that you named?
2. a) Did you participate in developing the BECP "At Home" activities? ☐ Yes ☐ No  
 b) Did you participate in implementing the "At Home" activities? ☐ Yes ☐ No  
 c) How often do the "At Home" activities occur? \_\_\_\_\_  
 d) Did you find evidence that parents/relatives engaged in the "At Home" activities? ☐ Yes ☐ No If you answered yes, for how many of your students was this true? \_\_\_\_\_
3. Did you find the inservice training sponsored by Title VII beneficial? ☐ Yes ☐ No  
 If yes, why? If not, why not?

Title I/ Migrant Teachers

Note: In answering the following two questions, please consider if you made any changes in organizing students for instruction, scheduling, number or amount of unit(s) covered, study trips, etc. Also consider if any changes in student behavior can be noted.

1. What have been the benefits of not having an aide this school year?
2. What have been the drawbacks of not having an aide this school year?



AUSTIN INDEPENDENT SCHOOL DISTRICT  
Office of Research and Evaluation

March 25, 1982

TO: Title I, Title VII, and Migrant Pre-Kindergarten Teachers  
FROM: Karen Carsrud, Martin Arocena, and Catherine Christner  
SUBJECT: Pre-K Teacher Interviews

As part of the evaluation of the pre-kindergarten programs, all pre-K teachers will be interviewed this spring. Mrs. Fran Olson will be conducting the interviews. The information gathered will be used to compare the three programs.

The data will be tallied collectively so your individual responses will be kept confidential. Mrs. Leonila Gonzalez from our office will be calling you in the near future to arrange an interview time that will be convenient for you. The interview should take no more than 30 minutes. The interview format to be used is attached.

Your cooperation is greatly appreciated.

KC:MA:CC:lg  
Enclosure

APPROVED: *John M. Helley*  
Director, Research and Evaluation

APPROVED: *Ruth Mae Allister*  
Assistant Superintendent for Elementary Education

cc: Lee Laws  
Timy Baranoff  
Oscar Cantu  
Anita Uphaus  
Anita Coy  
Carmen Gamboa  
Principals with pre-K teachers  
Eva Rivera

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